The Cotton Textile Industry *of* Far Eastern Countries

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THE COTTON TEXTILE INDUSTRY OF FAR EASTERN COUNTRIES

THE
COTTON TEXTILE INDUSTRY
of Far Eastern Countries

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PREFATORY NOTE

It would be impossible for me to make mention of all the persons who have rendered me valuable assistance in gathering the material for this report. To each of them, however, I desire to acknowledge my indebtedness, for without their aid my task would have been impossible. It is in a sense their report rather than mine.

To those whose interest in the cotton textile industry of Japan, China, and India goes beyond the scope of this report, I can do no better than recommend the very thorough and admirable studies of the cotton industries of those countries recently published by Dr. Arno S. Pearse, General Secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, England.

The Author.

IMPORTANT NOTICE

The JAPANESE YEN, at the time of the preparation of this report, was valued at $0.4985. Figures in yen throughout the report, therefore, should be computed at 50¢ gold.

The SILVER or MEXICAN DOLLAR of China was valued at $0.378. It should, therefore, be computed at 38¢ gold.

The RUPEE of India has been stabilized at 1s. 6d., or approximately $0.366. Rupee figures in this report should be, therefore, computed at 37¢ gold.

CONTENTS

	Page
Introduction	1
Japan	5
Japan—*Mill Details*	17
Japan—*Appendices*	47
China	65
China—*Mill Details*	69
China—*Appendices*	77
India	97
India—*Mill Details*	101
India—*Appendices*	123

LIST OF ILLUSTRATIONS

	Opposite Page
Steamship Piers at Yokohama	6
Modern Structures in Tokyo	6
Dining Room in Matsuya Department Store, Tokyo	14
Novel Advertising Stunt—Japan	14
Machinery Coming to be Used by Japanese Farmer	24
Customs of Old Japan Linger in Country Districts	24
Toyoda Patent High Speed Automatic Loom	30
American Consulate General at Shanghai	64
Hong Kong & Shanghai Corporation, Shanghai	64
Chinese Cotton Mill at Shanghai	66
Junks on Yangtze River	66
Mongol Sheep Herder	68
Mongolian Bullock Carts	68
China's Cottage Industries—Pongee Silk	69
Cotton Awaiting Shipment at Kwan Yi Fang	70
China's Cottage Industries—Preparing Warp Yarns	70
Framework of a Mongol Yurta	72
Rich Mongolian Women	72
Great Wall of China	73
Travel on China's Narrow Highways	73
Wool Hauled from North China Plains	74
Wool Market in North China	74
Simple Life in Chinese Village	75
Ponies Carry China's Trade in Central Provinces	75
Shwe Dagon Pagoda at Rangoon	97
Railway Yards at Karachi	98
Docks and Crane Equipment at Karachi	98
Cotton Cultivation in the Punjab	102
Cotton Pickers in Indian Cotton Fields	102
Indian Cotton on Way to Mill	104
Cotton for Sale, Bombay Presidency	104
Old Court House Street, Calcutta	108
Country Woman in India at Spinning Wheel	108
Cotton Weaver at Work	112
Dyer's Shop in Jaipur	112

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THE COTTON TEXTILE INDUSTRY OF FAR EASTERN COUNTRIES

Twenty-five years ago the traveler in Eastern lands could always be sure of at least one sight, wherever his wanderings led, to remind him of home. Whether his camp were pitched in the high mountain passes of northern India, or on the desert wastes of Mongolia, thousands of miles to the eastward, long strings of camels were sure to pass, going deeper into Central Asia; and it was a certain bet that every other lurching, grunty beast would be loaded the same—a case of kerosene on one side and a bale of cotton piece goods marked "Made in U. S. A." on the other. An American brand of kerosene and the famous "Dragon" brand of grey goods set the standard for their kind all over the Asiatic continent.

Today the caravans still load up with kerosene. But the eye of the most discerning traveler can hardly discover, even in the bazaars of the seacoast towns, the remnants of that early American trade in grey piece goods which is almost as if it had been sunk without trace. Nor is the case of Britain's Lancashire mills much better. Their trade, too, has been fast declining in recent years, and seems fated to continue its downward course.

Far Eastern Markets for Far Eastern Mills

The survey which I have been lately privileged to make of the cotton markets and industry of Japan, China and India, the three principal cotton textile producing and consuming countries of the Far East, leads to the conclusion that these peoples are providing for their own and the textile needs of their immediate neighbors in increasingly larger measure; and that Far Eastern markets in future will be more and more dominated by the cotton textile output of Far Eastern countries. American and European mills are likely to find competition with them even more severe than in the past, excepting, for some years at least, fine-count and finished goods, and specialties. Here too, however, Asiatic mills are rapidly improving in efficiency of production and in quality of output.

Barring various indeterminate factors, of which the uncertain political situation in each is most important, India and China may be expected to develop their textile industries within the comparatively near future to a point where they can at least fill the bulk of their domestic requirements, and to make it harder for outsiders to participate by increased tariff impositions and other legislative enactments. This is more nearly immediate in the case of India than of China.

Japan, by far, of course, the most advanced of the three countries, recognizes the inevitability of domestic textile development in China and India and of consequent inevitable losses in her exports to those countries. She is therefore actively preparing her industry to recoup these losses by textile exports to other countries—Asiatic and African, the Near East and probably South American—which have not a developed

cotton textile industry of their own. In recent months she has even invaded enemy (i.e., Lancashire) territory by the shipping of fine-count shirtings into Great Britain itself.

British Textile Interest

The British textile industry has been made widely aware of the situation by the reports of Dr. Arno S. Pearse (General Secretary, International Federation Master Cotton Spinners' and Manufacturers' Association, Manchester) as the result of his personal investigations of the cotton industry in Japan, China and India during 1929–30. Thoroughly aroused, Britain's manufacturers are undertaking extraordinary measures to rehabilitate themselves in Far Eastern markets,—the foremost being reorganization of practically their entire industry into the Lancashire Cotton Corporation. Their hope is that with this instrument and the support of the British Government they may engage the textile industries of the East with their own weapons: i.e., lower labor and manufacturing costs; lower freight and handling charges, involving, perhaps, rebates, subsidies or cooperation with Government and transportation agencies in some form; and closer coordination of cotton merchants, manufacturers, distributors and financial institutions.

On every hand throughout Eastern countries, however, among cotton men from Egypt to Osaka,—and most of them British,—is heard the opinion that Lancashire's effort has come too late. The Eastern industries, they say, have obtained a most impressive start, while the West lagged along indifferently, and they cannot be headed. There is no dissension from this point of view except among newspaper economists, writers who do not know, or who still cling devotedly to their partisan hopes.

It seems hardly necessary to say that to these authorities the position of the American textile industry in Oriental markets appears, for many reasons, even less promising than that of Lancashire.

Western Participation in Eastern Mills

The only remedial suggestion offered at this late day is that British and/or American industries establish their own cotton mills in India and/or China, using local labor but exercising managerial control with a trained personnel from the West, while, at the same time, encouraging the participation of local institutions in capitalization and financing. There are many excellent reasons advanced to show that such a procedure would be both practicable and profitable. But there are many obstacles to be considered also, especially those dealing with the political status of the two countries, and it is clear that a project of such importance could only be given serious consideration after a wide technical investigation.

The Position of Egypt

Aside from the three countries specified, Japan, China and India—each of which I shall treat separately in this report—the only country east of Suez now presenting a cotton industry of potential importance is Egypt. Egypt, however, may be considered for some time yet a fairly negligible factor. The Filature Nationale d'Egypt is in complete control of the textile industry with a capitalization of over £1,000,000, participated in by the British, Swiss, and Egyptians, and its mills in upper Egypt and

in Alexandria turn inferior Egyptian staples into grey goods. Egypt's superior staples are all exported, Japan taking them in rapidly increasing quantities. The history of the Filature Nationale d'Egypt has not been one of success. As a Cairo banker explained, "They have not been able to compete with the Japanese even in the contiguous countries of the Near East, and their experiment of making cotton piece goods out of the inferior staples of lower Egypt has offered no encouragement to outside capital."

It is suggested that aside from a lack of unity in management and unsuitable staple, Arab and Egyptian labor has not proved itself well adapted to the kind of machine and factory work found in a cotton mill. Egypt, however, is ambitious to develop her cotton industry, and is reported as having recently engaged Dr. Arno S. Pearse (previously referred to) away from Manchester at a very large salary as a sort of adviser or dictator (somewhat analogous probably to Will Hayes in the moving picture industry) of her cotton textile industry.

JAPAN

Though second to the raw silk industry in value of output, Japan's cotton textile industry is the most financially sound and progressive industry in the country today. Its prosperity possibly exceeds that of the cotton industry in any country. Many factors share responsibility for this, and at the outset it should be stated that its position could never be so high and secure had it not taken advantage of the opportunities offered by the World War. Within twenty-five years (1894–1918) Japan fought in three successful wars, with China, with Russia, and with Germany, each of which furnished a tremendous impetus to the cotton textile industry. It piled up in reserves the immense profits it derived from these periods, and, like the camel with its hump, it has lived off them in hard times ever since.

Prosperity of Large Mill Combines

That the Japanese cotton industry generally, and particularly the larger combines, may claim a healthy financial condition is indicated in Appendix I, which is a complete list of all the cotton mills combined in the Japan Cotton Spinners' Association, and a summary of those of any consequence outside of it. There are of course many thousands of small weaving concerns in Japan, employing less than 5 persons, which may be regarded as "cottage industries," and whose output is used wholly in the family or community.

Factors Underlying Prosperity

But such factors as the opportunities of war are exigent and fortuitous. There are deeper and more permanent causes underlying the success of Japan's cotton textile industry. Foremost perhaps is the innate Japanese capacity for organization and unity of action, developed by their conception of the family, the group, the clan, the State—never the individual!—as the unit which is to benefit from the activities of its separate members. In fine, a patriotism centering itself around the person of the Emperor who symbolizes its maxim, "One for all and all for one." This is an idyllic aspiration in the West, but a living rule of action in Japan. It accounts partially at least for the fact that the Japan Cotton Spinners' Association embraces better than 97 per cent of all the cotton spindles and 80 per cent of all the power-driven looms in the country. There is no other organization within the industry, and its decisions have the force of law to its members.

Control of the Great Industrial Families

Probably the second factor in importance is the coordination in effect between all branches of the cotton industry, due to "interlocking interests," not only as between themselves but with practically every principal industry in the empire. Dr. Pearse has said of Japan, "the whole State is one 'trust';" and when one comprehends that 70 per cent of the entire trade and industry, both foreign and domestic, of the empire is in the hands of but 15 great families—the Mitsuis, the Iwasakis, Yamagatas, Suzukis and their like—it may be comprehended as readily that practically every branch of every industry moves under the general direction of the same, or same group of, shrewd, powerful heads. Thus one learns without surprise that but 9 of the 55 princi-

pal mill combines manufacture or control 80 per cent of Japan's cotton textile exports. Three great raw cotton buying companies handle 70–80 per cent of the total raw cotton consumed in Japan. These same three raw cotton purchasing firms are likewise the principal distributing agents for the output of the mills. They have their branches in all parts of the world, the United States, China, India, every country in Asia as well as in Africa. Their principal stockholders are often the largest stockholders in the mills also. They frequently sell cotton to the mills at a price below replacement costs, giving to the mills a proportion of the benefits of their speculative transactions; and they sell the products of the mills in foreign markets on a commission basis varying from 1 per cent in the case of grey goods to 2½ per cent, sometimes less, in the case of colored and printed goods. There are no intermediaries to pay.

But these large interests in the cotton companies and the mill combines are often the ruling interests in the banks and shipping companies also. Hence, the cotton mills are able to negotiate their bills of exchange and their financial requirements at lower rates than non-affiliated institutions could obtain. In like manner they are able to secure from the shipping companies rebates on certain cargoes: e.g., members of the Japan Cotton Spinners' Association receive from Japanese steamship lines a rebate of Yen 1.40 or 70 cents per bale of 400 pounds on all raw cotton brought from Indian ports, an average reduction of 33–40 per cent; while the shipping companies which bring raw cotton from the United States and China receive subsidies from the Government amounting to in excess of $750,000 per year. A regular monthly service of steamers to East African ports, carrying piece goods to them and bringing raw cotton back, receives a subsidy of $200,000 per year.

The net results of this interlocking of interests and close organization is that the cotton industry gets at all times the best possible service, at the lowest feasible cost, from the most highly organized institutions and the best commercial minds in Japan.

The Progressive Spirit

I put not lower than third in rating the factors that have brought success to Japan's cotton industry what may be called the *will to progress*. It might be ranked even higher. Progress is the keynote of all Japanese endeavor at this time, and nowhere is it in evidence more clearly than in the cotton textile industry. Japan's big industrialists have sent their bright young men all over the world for training. They return not only with a wide technical training, but with a knowledge of the language of industrial nations also. The Japanese carefully watch technical journals, industrial movements, the invention or improvement of mechanical devices. In the cotton industry they do not seem to hesitate to scrap either plant or machinery when it appears threatening to become obsolete. I saw little machinery in Japanese mills earlier than 1906. A considerable quantity dated from 1914 through the years of the war—brought about of course by the wide expansion of that time—but a very large proportion was dated from 1918 through 1929. They do not hesitate to study carefully the machinery brought from western nations and to make copies from it or improvements upon it. I saw in several mills ring spindle frames, intermediate drawing frames, bale presses of British or Continental origin, and, standing beside them, exact duplicates made in Japan. In one mill only, when I asked why they did not use more

New Steamship Piers at the Port of Yokohama Showing Railway Connection

One of the Many Modern Structures Recently Built in Tokyo

machines of their own make rather than the imported machinery, they replied, "because the patents had not yet run out." In nearly every mill there were certain devices or improvements, some skillful and ingenious, others obviously home made, attached to the mill equipment bought abroad.

Japan's General Progress

At this point it may be interesting as well as useful to give some space to the general picture of Japan as I saw it. For such a picture should help to understand not only the causes underlying the development of the cotton industry, but something of the general situation of the Japanese people as it appears today to the eye of a foreign observer in that country.

From the moment I set foot in Japan I was astonished at the progress that had been made since I was there last, in 1919. From the dock in Yokohama to the hotel an observant man can see that this is no oriental country still asleep in the past. It pulses with activity and the progressive spirit. Yokohama is rising from its ashes. There were only 25 buildings left standing by the earthquake, in a city of 400,000 people, and they were gutted by fire. Yet the rising is all Japanese, the foreign enterprises are still largely housed in temporary sheds. The handsome, modern, permanent structures are all Japanese. Every street and business sign in the city is in English and Japanese. The traffic officers at the crossings direct traffic with an efficiency equal to that in most American cities. The streets themselves were broad and well-paved. Save for the Chinese characters (the Japanese employ Chinese characters in writing) and the short stature and yellow faces of the passerby, one might have easily imagined himself in an American city of similar location and size.

With certain exceptions, the Japanese-owned buildings were of steel-reinforced concrete, the foreigners' one-story shacks of lath and plaster. Foreign firms, I was told, were assured that their day was over, that the future belonged to the Japanese. Hence they were unwilling to make large investments for permanency in a land in which their business tenure was short. Two examples: although it has been six years since the earthquake, the Canadian Pacific's Yokohama branch is housed in a lath shack; the Chartered Bank of India, Australia & China is a corrugated zinc-roofed bungalow, before which still lie the broken stone columns of its former grandeur. Huts, bought in sections from American mail order houses, still domicile the American Consulate and many of the great foreign houses.

A Growingly Bi-lingual People

The next thing I noticed was that everyone spoke English. It seemed a quaint and distorted English, until I learned that every child in the country must attend school to the age of fourteen, and that every high school, even in the country districts, teaches English. It was easy, then, to make allowances. I have learned since that there is a widespread movement on foot to Romanize the language: within the next twenty-five years it has been predicted that Japan will abandon the Chinese characters in favor of the Roman, which would be a most important step in the Westernization of Japan. From both Japanese and foreigners I heard that the use of English is growing with such rapidity that it is only a question of years until the population, especially in the cities, will be practically bi-lingual.

Foreign Style Clothing

The third thing I noticed was the foreign-style clothing in use. In Tokyo, a city of 2,000,000 people, nearly all the men wore foreign clothing when engaged in their normal business pursuits. In some instances there were foreign garments with Japanese clogs, or wooden shoes; in others there were the native kimono, or gown, with foreign shoes and hats. In a few the dress was pure native, but except in the case of laborers and the very poor, such instances were rare. The women wore mostly the befitting and lovely garments of Old Japan; but except for the Geisha girls and the grandmothers nearly all had abandoned the ancient hair styles, and were modern in their hairdressing to an elaborate and attractive degree.

Poverty in the Shops

In the shops I found the reverse side of the picture. All the best and the most that they had was in the shop windows. There were no riches behind the shutters, or in the godowns, as in the Indian bazaars. I talked with the shopowners and learned the reason. Every cent they had was invested in rehabilitating themselves, in putting up their shops and getting started again. They had faith, but no money. For most commodities the prices struck me as high. Their stocks were bought with funds borrowed from the banks, upon which they paid from 10 to 12 per cent interest. To a certain extent it accounts for their prices. Consumption and other indirect taxes, imposed by the Government, are enormous. Duties on imported goods, as luxuries, amount in most instances to 100 per cent ad valorem.

Taxis, Rikishas and Bicycles

There is no real distinction between what is charged foreigners and natives. The sole difference is in the standard of living. Generally speaking you can buy American-made products in New York more cheaply than you can buy Japanese-made products in Yokohama or Tokyo. But one can take a taxicab to any address within the limits of Tokyo, in an American car ranging from Fords all the way to Packards, for 1 yen, or 50 cents. The longest ride is the same as the shortest. There are cabs equipped with meters, but few use them. I am sure this is unprofitable, and typical to a certain extent of all Japanese business enterprise, at least the newer ones. They do not take sufficiently into account depreciation and the costs of upkeep. I felt this to be true even in their most highly organized industry, the cotton textile industry.

It costs considerably more to travel in a rikisha than in a taxi, and the only rikisha men left are old men, that is middle-aged and past, who have never learned to do anything else. They run incredibly feebly, but they still run, and their patrons are mostly tourists, or the few who stick to the good old days. Another few years, and there'll be hardly more rikishas in Japan than in America.

The bicycle might almost be called Japan's national vehicle. There are more than 2,000,000 in use, and since few women use them it means that about one in five of the active male population has one. Mostly they are used either by industrial hands, or by delivery boys. The shops have not the ready capital to employ motor delivery yet. For the most part grown men who cannot afford taxis have a dignity that will only permit them to walk or take the tram and electric trains.

The electric trains between Yokohama and Tokyo run every 8 minutes through the day and more frequently during the rush hours. Offhand I should say that their suburban service was the equal of ours, schedules prompt, cars cleaner, and personnel efficient, disciplined and polite. Every foot of the way the trains run through power lines and factories. Japan's diversification of industries in the years since the earthquake is amazing.

The Modern Spirit in Tokyo

One's first impression of Tokyo is that of a huge, clean, busy and airy American city. Every one is going somewhere with a job in mind. Business buildings, theatres, hotels would be a credit to the larger American cities. The streets are wider than the run of our streets, cleaner, as well or better handled as to traffic signs and "cops." The Ginza, or main retail shopping street, has bakeries selling doughnuts and Vienna bread, coffee and ice cream just as at "home." But the patrons sitting about inside eating coffee and doughnuts, or partaking of nut sundaes, are Japanese, and every one of the wares is made in Japan. On the windows and walls are hung signs reading in both languages,

"Ham & Eggs, 80 sen,"

and similar gustatory legends, just as in America, the prices something less in many cases, a good deal more in others. There are more than 21,000 of these cafes in Japan, and 3,300 of them are in Tokyo, and all but a few of them are American in style as well as in food served. Where but from America would the Japanese learn to serve in their cafes and to their own people doughnuts, or hot cakes with syrup! Prior to the Great Earthquake the cafe was virtually unknown in Japan, and the number of foreign-style restaurants in Tokyo could be counted on the fingers of one hand. Today foreign-style restaurants and cafes can be found not only in Tokyo in great abundance, but in many other of the larger cities.

This is only one of innumerable evidences of the growing westernization of Japan. The catastrophe of the Great Earthquake brought a change in Japan's development that could be termed as revolutionary. It turned its back overnight upon that Oriental civilization of which it was a part, and, in a material sense at least, has set its face ever since toward becoming a Western nation. The great buildings of concrete and steel in Tokyo, Yokohama, Nagoya, and Osaka; the beginnings of the subway in Tokyo; the cafes, movie houses, immensely patronized; the wide streets, with their modernized road systems for the use of motor busses and taxis, are all indicative of the great change that has taken place. The Japanese have taken over our commerical and industrial civilization, our methods and practices, and are adapting themselves to them. Except in a spiritual sense, they mean to release themselves from the conservatism of their fathers. They have undertaken to learn all they can from the foreigner, and they study him closely, both at home and abroad; but they are determined to be rid of him at the first opportunity. In science, in engineering, in merchandising, in building up their industries, they are resolved to stand upon their own feet. That is why many foreign firms in Japan are convinced that in but a few more years the only foreign representatives of Western business remaining in Japan will be those who have unified their interests with Japanese financial, industrial, or commercial houses.

Character of People Japan's Greatest National Resource

Every one knows that the Japanese face tremendous economic problems. They have no important material resources. They have exhausted their capital, are deeply in debt, and are living beyond their means. The Government taxes the people heavily, and spends the money on roads, schools, sewerage systems, new ships and docks. When one of their industries is in distress, the Government goes to its relief with a subsidy. Every one works and takes care of his responsibilities. There are no poor in Japan in the Western sense, i.e., no beggars, no homeless. Every one has food, clothes, and a roof over him. Custom for generations requires that the strong take care of the weak. These people are as unified as a swarm of bees in a hive. The great natural resources of Japan lie not in copper, or coal, or iron, or oil, but in the character of its people. An American banker has said that whatever business difficulties Japan may have to pass through, her credit is good; for she always lives up to the requirements, both Government and private concerns. It is upon the basis of their unity of purpose, their indomitable courage, their capacity for organization, and their will to progress that the future of Japan is built, rather than upon mines or navies.

I am aware that this long digression away from the cotton textile industry into the general conditions in Japan will seem to many tedious, to others unnecessary. It is essential, however, if we of the West are to understand what the Japanese are doing, either in the cotton industry or in other lines, that we have a picture of the whole scene from which we may gauge the spirit which animates them. This I have tried to give. In essence it is that the Japanese have become, or are rapidly becoming, a truly Western people in the East. The spirit of modern industrial progress has taken possession of them.

I am aware that this idea will be combatted, not only by those Westerners who know nothing of Japan except what they read, but even by some who have visited or are resident in Japan. It is customary with these last to characterize any appreciation of Japanese progress toward modernism as "bologney" or "banana oil." Prejudice has simply kept their eyes closed to the facts that lie all about them.

To support the picture, I shall not depend upon these hastily conceived "impressions" of mine, but venture to quote briefly from other foreigners who live or who have recently lived in Japan, and who know far more of the Japanese people than I. A distinguished resident of Tokyo wrote in the *Trans-Pacific* (published in English in Tokyo) for December 19, 1929, among other things:

> The appearance of the cafe and the dance-hall, the one-yen taxi, the motor bus and the motor lorry, the modernized road system and vast buildings of ferro-concrete; all these, together with the disappearance of the kuruma and other slow-moving forms of transport, must strike the returning wanderer, who has been absent from these shores since before the quake, with surprise. But the change is not merely a change in appearance. It goes much deeper than that and must be taken into full consideration by those seeking to understand the social currents in Japan and the trend they are taking, for these changes are affecting both directly and indirectly the life and thought of the people. The student of social politics and problems could hardly, in fact, find a more fruitful field for study in any country than in Japan at the present time.

Dr. Wilhelm Solf, former German Ambassador to Japan, and one of the foremost

of Western students of the Japanese, had this to say in a recent address to the German Machine Builders' Union in Berlin:

The economic development of Japan has been marked by the three wars which the country fought in the last generation every 10 years, the Sino-Japanese war, the Russo-Japanese war, and the World War. All of the economic and financial statistics of Japan show that each of these wars broke up a depression which seemed rather hopeless, due to the comparatively negligible capacity for development of the domestic market, and gave the economy of the country a new impetus toward capitalism. Without the Russo-Japanese war, during the conduct of and after which foreign capital flowed into the country in appreciable quantities, Japan would never have risen to be an industrial power worthy of international rank.

But the year 1907 found a commercial power in the Far East. Behind it stood the single-minded purpose of a self-contained and a self-conscious people, whose patriotism once awakened and nearly unhampered by internal discords was directed toward the undertaking and adoption of every development in Western modern technique and organization. In no point did Japan wish to lag behind the more advanced industrial states of the West.

After the great earthquake a new commercial policy was inaugurated designed piece by piece to supplant foreign imports in the domestic market. Since this brings me to the Great Earthquake, I might here say something which does not, in fact, belong to my theme. I experienced the earthquake in Japan and lived, trembled and sympathized with the Japanese through that tremendous catastrophe. The greatest experience, however, that I drew from that time was the observation of the control of the Japanese people. The nation went through this catastrophe with heroism and with a mild and considerate neighborly charitableness. I saw no child or woman weeping or wailing. I only saw the people helping one another. No one would be shoved away from his better situation during the fire. Every one instantly set in, without anxiety and without sorrow, to repair in silence that which nature had scattered.

And again from one of Japan's most distinguished editors, Dr. Inazo Nitobe, in the *Osaka Mainichi*, of February 6, 1930:

Incessant change is the order of things throughout this world we live in; this is apparent in many ways, in our dress, the houses we occupy now-a-days, our meals, our methods of getting about the country and cities, and particularly in the ways in which we play and amuse ourselves. In this latter respect it can truly be said that the change that has come over the Japanese people is a startling one indeed.

The young people of today are indeed fortunate in the opportunities and chances they have for enjoyment in life, and it can be well said that they are not allowing many chances to slip past them for taking advantage of them, where possible. The scenes that may be witnessed on the roads leading up to the mountains on any Sunday morning, or on holidays, is an amazing one to the older generation; youngsters off to the skating or ski-ing grounds, many of them big strapping girls of school age; football, hockey, golf, baseball, and hiking have all been taken up with avidity and eagerness, and the results are here for all to see today in increased stature and improved physique, with that free, easy carriage and deportment that comes of a healthy and well-developed body. It is a wonderful change and all for the good of the people and nation at large.

In regard to indoor pastimes, it can safely be said that the cinema leads them all in popular favour. The Japanese mental appetite for this fare is insatiable and it is being well catered for by the handsome big picture palaces that are springing up around us. In connection with this mention of cinemas it is curious to note how the talking pictures have become popular here in Japan notwithstanding the fact that probably not one per cent of the audience

can understand what is being reproduced in words off the film, and that they have to rely on a spoken interpretation. It is a practical certainty that when the time comes when really good Japanese talking films can be shown and listened to, that there will be a tremendous future before this class of amusement in Japan.

In the matter of social dancing we Japanese people are sadly behind other countries today. Notwithstanding all the ridiculous and petty prejudice against this form of enjoyment that we see here, it will come into its own in Japan some day. The young people who will come of age in the next few years will be able to enjoy some of the pleasures that our ridiculous and nasty-minded moral censors have deprived the older people of all their lives.

It is a matter for congratulation that here in Japan, as elsewhere throughout the world, our people are beginning to sit up and take notice of the splendid benefits to health to be obtained through making all the use they can of sunlight. In not very remote times our people hated to be exposed to the hot sun, and avoided it. We are learning, although late, and we have still a big battle to fight against tuberculosis (which sunlight cures). The conversion of the Japanese is aptly illustrated in the new styles of dwelling houses being built now; everyone wants a sun-parlour or some place where sunlight enters. We Japanese want every moment of sunlight that we can get.

Finally, I cannot refrain from quotation of an authority nearer home, Mr. E. A. Cleveland, Chief Commissioner of the Greater Vancouver War District, who recently, after a two-months' trip to Japan, addressed the Engineering Bureau of the Vancouver Board of Trade as follows:

The Japanese are a nation not of shopkeepers, but of engineers, mechanics and builders. They have become ardent and self-sacrificing town planners. They have embraced Western scientific methods of sanitation, power production, and transportation. Poor and overcrowded, they yet carry on projects of improvement on an unparalleled and yet economical scale. They work with a nationally characteristic intensity of energy, and everywhere is seen the hand of the Government, initiating, assisting, and directing. There is no end to the work which the Government does in Japan.

Such an intensity exists in Japan, however—such an intensity of spirit, realization and attack on problems—that the country is suffering from what might be called "technical indigestion." Every latest device is seized upon, every possible scientific method of ameliorating a specified condition is adopted with such avidity that the scientists do, sometimes, overreach themselves.

Japan's Geographical Advantages

One of the contributing factors to the success of the Japanese cotton industry has been that of her geographical position. Japan grows no cotton herself but has to import it all, by far the larger quantities from India and the United States, the remainder from China and Egypt, and in increasing quantities from other East and South African regions, Kenia, Uganda and Durban. This is of course a real handicap but it is equalized by Japan's proximity to her great Eastern markets. Generally speaking she has not attempted, nor would tariff restrictions and local competitors permit her to succeed in finding markets for her cotton textiles in Europe or the United States. Hence she has wisely confined her main efforts to Asiatic territory.

For this purpose she has built up a large and speedy merchant marine, has adopted a system of rebates and established lines of communication and agencies in all Oriental countries. The energy of her mills is such that, aided by these factors of

speed and proximity, she can deliver goods *on order* in China at a pinch in 10 days to 2 weeks, whereas it would require not less than 3 months to fill such orders from the United States or Great Britain. In like manner and with but little more delay she can receive designs of American or European origin that have been sent for consideration to India, the Dutch East Indies, or the Philippines, make copies of them, receive the order and deliver the goods before a similar order from the country of origin could have been placed on shipboard.

Labor Conditions, Costs, and Efficiency

I have left labor costs and efficiency to the last, in considering the factors principally responsible for the prosperity of Japan's cotton textile industry, because there is some difference of opinion as to its importance. Mr. Burton Crane, financial and business editor of the *Japan Advertiser* (an American-owned and managed newspaper published in Tokyo) informed me that his special studies of comparative labor costs between Japanese and Lancashire mills disclosed that in 1926 the British mills had an actual advantage over Japanese mills of 47 per cent in labor costs—when all factors, including efficiency in relation to amount and quality of output, were given due weight. Since that time, however, improved management in Japanese mills had reduced the discrepancy by 12 to 17 per cent; so that now Lancashire mills have an advantage of less than 30 per cent. Mr. Crane thought that, all factors considered, the disadvantages of American textile mills in labor costs, as compared with the Japanese, would work out at less than 20 per cent. He ascribed the success of the Japanese industry mainly to the factors that have been mentioned, and to their formulas for mixing American standard staples with low grade Indian cottons—formulas which are most jealously guarded, and which Mr. Crane characterized as the whole secret of Japanese ability to manufacture low-count textiles at a cost far below their competitors.

My own investigations, as shall be subsequently disclosed, as well as those of Lancashire's expert, Dr. Pearse, seem largely to bear out Mr. Crane's views, although it is important that sufficient weight should be given to the relations existing in the Japanese industry between labor and manufacturing costs, and the volume of production. The scale of wages in the cotton industry, as well as in other industries throughout Japan, and the standards of living are undoubtedly rising. They have risen by more than 50 per cent since the World War, and they will probably rise, with the standards of living, by at least that proportion in the next decade or so. But it may be that these factors are rising no faster than Japanese standards of efficiency as to both volume and quality of output, and that the present relationship may be retained.

Improvement in Spinning and Weaving Efficiency

The Japanese pay no less attention to the development of the human factors, which are so essential to the success of the textile industry, than to the mechanical. They are constantly seeking by various forms of training and encouragement to improve the well-being as well as the skill of their workers. But a few years ago the average spinner could care for only one ring spinning frame, from 320 to 480 spindles. A few mills in Japan now have girls who care for up to 1,280, and in one instance up to 1,600 spindles. Four years ago the average number of looms tended per hand in

Japan was 3.5; less than two years ago the average had increased to 5.5; and within recent months the average is estimated at 6.5 per weaver. While a vast proportion of the 75,000 power driven looms operating in Japan are plain looms, the increased use of automatic looms, particularly since the advent of the Toyoda loom, is said to have raised the average in most of the better mills to over 10 looms per weaver. In some mills one girl handles up to 60 automatic looms, and the average for the entire industry is said to be 24–28.

Living Conditions of Workers

Contrary to the general idea that has prevailed in many countries as well as among some social elements in Japan itself, living conditions among Japanese mill workers are probably, in comparison with living conditions generally pertaining in their communities, equal to those found in any other country. Under the leadership of Mr. Sanji Muto, for twenty-six years president of the great Kanegafuchi Mill combine, a benevolent and welfare work on behalf of the employees was inaugurated in that company which the other large combines have had to follow. They now have established excellent dormitories for their women labor—which is to the number of men employees generally as 3 to 1—a fully equipped hospital service, meals, cinema and other amusements, and even secular schooling for those who are below the standard of the city's elementary schools. In many mills there are even classes in household and technical training. It is said that with the abolition of the double ten-hour shifts per day, and the substitution of the double shift system of eight and one-half hours each (and no employee is permitted to work more than one shift) there has been no diminution either in volume of production or in the earnings of the workers. On the other hand, both have tended in many mills to show an increase.

No one familiar with the conditions and standard of living throughout Japan can go through the dormitories of Japanese cotton textile mills and compare the living conditions surrounding the girl employees, and in some instances the men employees also, without arriving at the definite conclusion that the living conditions are at least equal and probably superior to those they would have at home. Practically all female cotton mill labor is based on a two or three-year contract. Recruiting officers comb the country districts. The father of a large family may be in need of money, as fathers of large families often are. He is able to raise a lump sum from the cotton company, and his daughter, who is perhaps 14 or 15 or 16 years of age, enters into a contract to extinguish that debt. She is sent to one of the company's mills and there housed in a dormitory with several hundred other girls. In the Oyama Mill (598,404 spindles and 3,200 looms) of the Fuji Gasu Spinning Company, for example, there are 2,895 dormitory girls and 1,423 "others." The others, generally speaking, are the wives and daughters of male workers, and live in houses provided by the company on a basis somewhat similar to that of the dormitories. Mr. C. Kimura, director of the Toyo Spinning Company, which employs 39,174 operatives, declared recently that in erecting a new mill an allowance of 20 yen (approximately $10) a spindle must be made for the construction of dormitories.

Workers Treated Well

In most cases the girl operative is cut off from the world when she enters the employment of a company. Many of the mills are in small villages on the outskirts

DINING ROOM IN MATSUYA DEPARTMENT STORE, TOKYO.—*Probably 95 per cent or more of this store's customers are Japanese, and this room is a clear indication of the advance the Japanese are making in the adaptation of Western customs.*

A NOVEL ADVERTISING STUNT—THE JAPANESE ADAPTATION OF AN AMERICAN IDEA.—*Note the subtlety of the artist's conception of "Hands Across the Sea," but with Japan's gigantic military figure looking on in the background.*

of the great centers of population. They have few amusements other than those provided by the owners. The largest and best mills (the only ones which are real competitive factors in the world market) accordingly make every provision for the health and happiness of their workers. Each plant includes a theatre and a model hospital, while sanatoria are maintained at seaside and mountain resorts. Food is sold to the workers well below market prices. The Fuji Mill mentioned above sustains a loss of $2.25 a month on each worker's meals. The food subsidy of the Toyo Company, with its 39,174 employees, totals over $400,000 a year. Working clothes are provided at less than cost. Company schools enable dormitory girls to continue their education, while ambitious youths may take technical courses to fit them for executive positions. Workers' children are cared for in company kindergartens.

Mr. Sanji Muto, president of the Kanegafuchi Spinning Company, and Mr. Kimura of the Toyo Spinning Company have provided figures on the carrying charges per operative *per day* in their respective organizations. They are as follows:

	Toyo (*Yen*)	*Kanegafuchi* (*Yen*)
Lodging (including dormitories and company buildings provided for the workers, with lighting, heating, water, insurance, taxes, and other charges)	.082	.060
Subsidy for food sold below cost	.060	.090
Working clothes	.001	.001
Special allowances (including wedding and birthday presents, retirement and annual bonuses, prizes for attendance and relief works)	.110	.170
Hospitals, sanatoria, and nurses' training schools	.037	.040
Entertainments (including clubs, gardens, theaters, motion pictures, sports, trips, and other recreation)	.010	.080
Education	.006	(1)
Kindergartens	.002	(1)
Children's nursing home	.001	(1)
Pensions	.078	.060
Recruiting	.037	.037
Health insurance	(2)	.030
Supplies	(3)	.009
Total in addition to wages per day	.424	.577

(1) Probably included under special allowances.
(2) Not mentioned by Toyo. For purposes of this survey Toyo total should be increased to .454 yen.
(3) Included under lodging.

In view of the wide differences between the Toyo and Kanegafuchi items for special allowances and entertainment it is perhaps worthy of mention that Kanegafuchi has never had a day of labor trouble in the last 30 years, and has paid no dividend smaller than 35 per cent in the last 10 years.

Sanji Muto

Mr. Sanji Muto might very nearly be called the father of Japan's cotton textile industry, for it is generally agreed that in his 26 years' successful leadership of Kanegafuchi he has set the pace and originated the policies which all the other companies

have had to follow. Especially is he credited with organizing the welfare work for employees which has resulted, under very difficult circumstances, in keeping the mills constantly supplied with sufficient female operators; with keeping them and labor in general in the cotton textile industry contented and impervious to labor agitators; with bettering their living conditions to such an extent that Japanese millhands are not only better off than other industrial workers in the country, but probably better off in comparison with their surroundings than cotton mill labor in any country.

The fact that at the time of his resignation, January, 1930, his directors and stockholders voted him a bonus of 3,000,000 yen, or $1,500,000, is not merely an acknowledgment of his great services, but is evidence of the extraordinary prosperity of the cotton mills he has directed.

Labor Unions and Communism

Japan's mill workers begin their day early. A bugle call arouses them at 4 A.M., and by 5 A.M. they begin their 8½ hours' work, with one-half hour rest. As practically all the spinning and weaving hands are young girls, whose term of service is for two or three years only, mainly to provide them with the means for obtaining a marriage outfit, they are generally docile and seemingly well content with their condition. They possess no trade union, and while there are a number of labor unions in Japan, the trade union as it exists in other countries has not yet become an important factor. There has been some communistic organization, and the labor unions of Japan are reported to have become connected with the communism of Russia; but while there is undoubtedly some labor agitation in Japan, the character of the people and the tendencies of the Government are such that it is not likely that communism will ever become a serious development in the cotton textile industry.

Quality of Labor

Of the quality of Japanese labor, I can only say for myself that it seemed to me docile, nimble, and deft. Undoubtedly it lacks the physical size or strength of similar American labor and probably could not continue at our unusual pace on piece work.

The Japanese girl to a certain extent is like her Chinese sisters and Indian brothers; she does not seem to strive continually for the increased wage due to an increased exertion. She seems content with what she appears to consider a reasonable wage. Her stature is so small and her figure so slight that in practically all mills employing foreign machinery, that machinery has been set several inches deep in the floor in order to accommodate it to the height of the worker. Dr. Pearse has this to state from his own observations:

> Contrary to statements by some previous investigators, the operatives in Japan compare very well with the best conditions in Europe, particularly in the weaving section. This state of efficiency must be attributed to the very excellent method of training the constant flow of apprentices, through the teaching and supervision of a large number of female overseers who have the distinction of wearing a sash over the usual uniform. They are carefully picked from amongst the more efficient operatives who have remained in the mills longer than the average. These female overseers are at times specially trained in classes. They seem to realize that they have greater responsibilities, and they consider themselves in a superior station of life than the ordinary girl operative.

MILL DETAILS

Mill Alpha

The first mill visited was on the outskirts of Tokyo and is a part of one of the largest and best managed mill combines. It has, according to the assistant superintendent who conducted us through, 100,000 spindles and 820 looms, about half of them automatic. They work, as do all Japanese mills at this time, in double shifts of 8½ hours per shift, and generally but 26 days per month—although, under recent regulations, due to shorter hours they may work 28 days per month if desirable. For operating this mill they employ 4,000 operators, in the usual ratio of 3,000 women to 1,000 men or 1,500 women and 500 men per shift. They work up 60,000,000 kin (1.322 lbs. equals 1 kin) of raw cotton annually. This is a fine-count mill and the assistant superintendent said that it used mostly Egyptian and Uganda cottons mixed with a small amount of American. Obviously from the small number of looms compared with the number of spindles this mill does more spinning than weaving, selling the yarn in hanks, 1,600 to the bale of 400 lbs., to some of the 75,000 domestic weaving sheds in Japan. The yarn we saw being spun and baled was all marked in English "80s Made in Japan," although they denied it was for export.

We were taken through the loom rooms first. Everything leading to the loom rooms was as clean as clean; the cement yard spotless, the 16 inch steel tracks for hand cars shining, cherry-wood floors of the sheds and corridors stained and highly polished. The mill buildings themselves, new since the earthquake, were all of one story, as are practically all cotton mills in Japan—the main framework brick and concrete reinforced with steel, with fully half of the structure of glass. Every window was clean. The mills are enclosed by a high wooden fence, say 8 feet high, and guards at the gates. None but persons having legitimate business with the mills is allowed within the wooden enclosure.

In the loom room, waste covers machines and workers like a fall of snow. They were the only untidy places about the mill. In the spinning sheds boys kept the floors clean with vacuum cleaners, and I saw nobody handling a broom throughout the mills. The looms all appeared to be 40", and all were either Platt Brothers (Oldham 1907 patent) or Staffords. Cards, slubbers, spinning frames, breakers, mixers—in fact nearly all the machinery I saw except the singeing frames and some Stafford looms in one room, were British made. There were some Japanese folding machines in the cloth room. The singeing frames in one process of yarn singeing were made by Joseph Stubbs, in the other by John Shaw, both British. There was a Barber & Colman tying machine, but most of the warp tying was done by hand, and I counted about twenty girls at it.

They were weaving plain sheeting, yarns 32s x 34s, 72 x 84 picks. The assistant superintendent said that this mill spins yarns up to 120s, and all its output is sent to the finishing mills at Osaka and made into print cloths. Stafford looms he said were running 180 picks to the minute, the Platts 190. There was a surprising difference in the color of the cloth, seeing that the superintendent said it all came from the same cotton mixture and through the same processing machines. Some of the cloth was very leafy, while in other looms it was soft and fleecy and clean. All of it seemed full of slub, or "neppy," to me. The superintendent said that generally one girl could

handle 6 plain looms and 21 automatic. There were obviously more loom workers than in American mills, and there were a good many stoppages.

We were conducted politely but hastily through the opening room, past breakers, mixers, and finishers. I had been told that the Japanese believed the secret of their successful production of grey goods lay in their cotton mixtures. The cotton I saw was mostly African but there was a good deal of American being used also, though I had to take the superintendent's word for it that the American staple used was "less than 10 per cent, better than strict low middling."

The card room was a joy to see, and here, all machines worked smoothly and noiselessly, lap and sliver beautifully clean and even, and surprisingly few workers in attendance.

In the spinning room there were a great many more girls noticeable than in American mills. The superintendent said that one girl could take care of 360 spindles, sometimes 480, rarely more. There were, I thought, a good many breakages, and the girls were very leisurely in repairing them. Some of the operators were old women, but by far the larger part of them were quite young, say from fourteen to eighteen years, bright-eyed and healthy looking. All the spinning frames were Platts, and all the machines throughout the mills seemed in perfect condition and beautifully taken care of. Machine shops were neat, light and airy, as were all parts of the mill with the exception of the loom rooms.

After going through the mill we were taken to the kitchens of the employees, and into the dining rooms, where we were given tea and cakes. The men employees, being mostly married, live outside the mill with their families. Of the 3,000 women, 2,200 live in the mill dormitories and board in its kitchens. In reply to my questions, the superintendent now produced his notebook and, from it, supplied the information herewith given *re* labor and wages. I have no reason to suppose it anything but absolutely accurate for this mill.

Wages of Male Employees

The heavy duty laborers, men, such as the balers, averaged 3.00 yen or $1.50 per day; the average daily wage of all male employees is 2.09 yen or $1.045. Carters and heavy duty laborers get daily wages, the others, that is balers, card room hands and process workers, are on piece work. In addition, every six months they are given bonuses. The average semi-annual bonus of the male employee is Yen 164.77, or, counting 26 work days per month, 1.055 yen per day. So that the daily wage of the average male hand is not $1.045 but $1.55 or $9.30 per week. This mill runs 17 hours per day in two shifts, but as each shift is allowed a half hour for food, the actual mill work day is 8 hours.

Female Operatives' Wages

The majority of the female employees enter the mill at from 14 to 17 years of age, and their average tenure is about three years. They then leave to get married, and only very rarely return to the mill service, as in Japan the man is expected to be the bread-winner and a wife to stay at home. Thus a complete turnover in female help every three years is reckoned to cost from $10 to $20 per head, or a charge of about 8 per cent on the wage cost. The average earnings of a female employee is 1.55 yen per day. She is charged, however, 15 sen per day for her food, and the actual cost of this

food is 45 sen per day, or 30 sen more. Accordingly the mill pays for the average girl's services 1.85 yen per day, or $0.925. Then the girl's average semi-annual bonus is 33.34 yen, or Yen 0.2137 per day. Call it 11 cents, and you have the actual pay per day of the female labor at $1.035, or $6.21 per week.

Dormitories for Women

This mill is noted for the care and protection it extends to its female labor. The 2,200 girls are given free rooms, free bedding, bathing facilities and such simple furniture as a Japanese house requires. The dormitories are spotless, the food in the kitchens abundant and clean. I went all over the place and was impressed with its sanitary comfort and orderly arrangements. They also have free hospital service, two hours per day schooling to bring the country-school-trained girls up to the standard of the city schools (education is compulsory with every child up to fourteen years) and night classes in sewing—they are taught to make their own clothes—twice weekly. They have also a theatre with four weekly performances, free, and a free library. Five girls occupy one room, but it is abundantly large and airy, with the usual brass fire pots employed for heating rooms in Japan, and adequate arrangements for their private effects. The hospital has 8 doctors, 30 nurses and 3 pharmacists; the daily average number of patients in the sickrooms is 25—not bad, out of over 4,000; for the hospital services extend also to the men and their families. All this shows that the Japanese are not behind us in the humanitarian aspects of their mills.

Mill Beta

Our conductor through this mill was an excellent example of the training Japan gives her cotton men. For 15 years he was a cotton buyer in India for the Toyo Menkwa Kaisha, or Oriental Cotton Trading Company, a Mitsui subsidiary. During this period as well as previous to it he was a piece goods salesman in India. Now he is managing director of one of the big mill combines. He is also engaged in erecting for the Mitsuis two new cotton mills, one at Kariya and the other at Nagoya, of about 100,000 spindles and 1,000 looms each, which are to make cloths exclusively of the kinds he used to sell in the Bombay market. Thus he is an example not only of how the Japanese train their mill men, but also of Japanese methods of preparation for the expansion of her cotton piece goods trade with India and other Far Eastern countries.

From the opening processes through to the cloth room and baling sheds this mill was one of the cleanest, brightest as to light and paint work, most airy and orderly I have ever been in. The buildings were of the usual Japanese construction, one-storied, about half glass and the remainder of concrete and brick, this form insuring abundant light and air and a minimum of danger from earthquakes—although it is practicable only where the large ground space needed can be obtained at a comparatively low cost. No lint or waste is allowed to remain upon floors, machinery or window panes even for a few minutes. In addition to the suction system for removing waste from the atmosphere, they use vacuum machines and small boys with dust brushes. Every part of the walls was painted and washed, every part of every machine speckless, either painted or polished.

This mill is only four or five years old, hence all the machinery is new. Most of the cards and spinning equipment were Platts, 1928; but there were some Japanese-

made cards (Toyoda) that I could not have told from Platts. They showed me a Rieter high speed drawing frame which enabled them, they said, to cut out three processes in reducing roving to 40s; and alongside stood an identical drawing frame, but newer and better finished, which they proudly pointed out as having been made by Toyoda. I saw a number of ring spinning and drawing frames made by Toyoda that looked very like duplicates of foreign-made spinning frames, and they pointed out on the foreign-made machines a good many improvements which they said they had made themselves. I asked why, since they were so able to make their own machinery, they bothered to buy any foreign-made machinery at all and they answered, "because the patents had not yet run out."

It may be that existing patent rights have not greatly bothered the Japanese in the past—nor are likely to disturb them in the future—for they have certainly learned to make nearly any kind of cotton mill machinery they need. But as to trademarks, I have seen some hundreds and not one that I could ever recognize as anything else but Japanese. Foreign cotton men in Japan say that the Japanese have practically ceased copying, with the exception of machinery, imitating or adulterating; and certainly there is little of it to be seen.

This mill had two Barber-Colman tying machines and fifteen or twenty girls threading metal healds. The Japanese mills use nothing but metal healds, claiming that the cotton healds are uneconomical. They had a number of Howard & Bullough reelers, while some of the breakers and lap finishers as well as inspection machines looked to me like Platt models copied by Japanese makers.

The three slashers, all made by Toyoda, differed from any others I have seen. They were completely housed in glass through which could be seen the warp threads moving through the sizing and being wound upon eleven large wooden "open work" reels. These machines were beautifully constructed, clean and noiseless, without exterior heat or odor. They told me that their sizing ran from 20–25 per cent in the process, but that in the cloth room it amounted to no more than 8 per cent.

The two loom rooms, containing 500 looms each, one of 44" and one of 30" looms, were in a perfect fog, the overhead pipes emitting a constant jet of moist steam over each loom. They told me the humidity was 82 per cent. The 44" looms were making plain shirting, the 30" a five-harness drill of standard construction, 20s–22s for India. They can make much finer count yarns for their export trade and expect to make finer and finer counts as competition with India and China mills forces them to it. Their 1,000 looms are all Toyoda automatics, averaging 200–230 picks per minute. Their trained girls care for 60 looms each, and green hands from 30 to 40. They, however, keep their hands only to train them and send them out to other mills to whom Toyoda automatic looms have been sold. They said that the power used by Northrup and Toyoda automatic looms is about the same at the same speed, but Toyoda uses 15 per cent more power at 200 picks than Northrup uses at 170. The average breakage of thread of Toyoda looms in these mills, with green hands, is seven to eight per loom per 8½ hour shift.

In the card rooms one man tends 24 cards, with a small boy to handle the sliver cans. One girl, they told me, in this mill takes care of 800 spindles and when the cotton is good she can care for 1,600 spindles, or four complete spinning frames. This is a much higher spinner's efficiency than in any other mill I found in Japan.

The office manager in this mill cheerfully produced his books and supplied all the details given below. Some of these figures show apparent inconsistencies, which one accepts without attempting to reconcile them. Their 44,000 spindles and 1,000 automatic looms in this unit give employment to 900 women and 300 men, or a total of 600 employees per shift of 8½ hours. They buy no yarn and sell none, but make the output of their spindles synchronize as nearly as possible with the output of their looms. They make cloths only for export, selling nearly their entire output to India, but some to China. In general they make but four styles of cloth, sheetings of two types and drills of two types of construction.

Wages of the women, that is, the spinners and weavers, in this mill average Yen 1.20 per day, with 30 sen additional cost to the company for their food. The managing director estimates that bonuses, proportional costs of dormitories, hospital and other benevolences bring the average total cost of the female worker up to Yen 2.50 or gold $1.25 per day of 8½ hours.

The men employees average Yen 1.60 per day, or shift, which with dormitory or room and house allowances brings their total cost to the plant as labor wage up to Yen 2.80 or $1.40 per day.

This mill makes mostly 22s to 42s thread. For 22s–25s they use all American cotton, for higher counts they mix a "small amount" of Uganda cotton. For lower counts than 22s they use 90 per cent American, better than Strict Low Middling, and 10 per cent Indian, better than standard staple. Upon order they can spin 16s to 20s from ordinary Chinese staple, and 30s to 40s from American Upland seed cotton grown in China, producing of course a somewhat inferior cloth. The two mills of this unit, each with 44,000 ring spindles and 1,000 automatic looms, consume 24,000 pounds of raw cotton per day in the ratio of 40 bales American cotton to 10 bales of Indian.

Their costs of working up a bale of raw cotton into warp 40s is Yen 40 per bale of 400 pounds, or 10 sen, 5 cents gold, per pound; for working up weft 25s the cost is Yen 25 per bale 400 pounds, or 6¼ sen (3⅛ cents) per pound.

Using 22s–26s filling thread, the 44" Toyoda automatic loom in these mills, making 69 x 3040 construction, turns out an average of 87 yards of cloth per loom per double shift of 17 hours, or 43½ yards per 8½ hour shift. The 30" automatic loom working with the same counts on 66 x 3030 construction averages 45 yards per 8½ hour shift. The average for all looms and all constructions is 39.240 *square* yards per loom per 8½ hour shift, or 1,569.60 square yards per weaving hand (since the average girl takes care of 40 looms in this mill and the more expert 50 to 60). From thread to cloth, they told me, the factory expense, exclusive of the cost of raw cotton and managing expenses, figures at Yen 1.70 per loom per day of 17 hours, or 85 cents gold per output of 78.480 square yards, or a cost of $0.01083 per square yard for labor and power.

Japanese mills generally, including this mill, are divided into two departments: the business department, which handles all the buying and selling, attends to all orders and general administration outside of mill operations; and the mill department which handles all matters connected with mill operatives and mill personnel. Usually a director of the company is managing director of the mill, or unit of mills, and corresponds generally to the mill agent in the United States. He receives a purely nominal

salary up to Yen 500 per month, but does not depend upon his salary. Semi-annually he receives a bonus, sometimes very large, and practically never less than the full sum of his salary. Principal mill operatives such as engineers, superintendents, foremen, etc., may receive salaries up to Yen 400 per month, but they too receive large bonuses. Mills within the general control of the Mitsuis (which include Toyoda, Kanegafuchi and some others) are recorded as giving the largest bonuses, never less than twelve months' full salary. In some of the other mills when profits have not been satisfactory it is said that the higher class operatives may not receive a bonus exceeding eight months' salary. Throughout the whole industry it is an unwritten law that the ordinary millhand's compensation, aside from paternalistic benefits, must at least equal 13 months' full earnings per year of 12 months.

Mill Delta

This mill is located some forty minutes by motor car from the center of Osaka city, and is one of the oldest cotton mills in Japan. Established in 1884, even the brick used in the construction of the mill's one four story building had to be brought out from England. That building is still standing, with one story removed, and another going to be removed, as a precaution against earthquakes; they now use it entirely as a power house and machine shop. The superintendent, disdaining reference to his books, answered my questions "out of his head," and some of his answers, I thought, were rather surprising. For example, he told me that the average cloth output per shift (8½ hours), per loom, was 60 square yards of 12 lb. cloth (3.25) 46 x 52 picks, 20s x 21–2–3s yarn—a per loom production greater than any other reported to me, while nothing that I subsequently saw in the mill could lead me to believe that the efficiency of this mill was even comparable with some of the others.

This mill employs 1,200 girls and 400 men, the usual one to three proportion, providing houses for all its workmen, while all the girls live in its dormitories. It works 46,000 ring and mule spindles, and 1,550 looms, of which 1,250 are Northrop 1894, and the remainder Platt plain looms, 1886. A great many of the spinning frames and some of the Platt looms, also, date from the first years of the mill's operation (1884–85–86), and are still in use.

There is one girl, said the superintendent, to each 400 spindles, one female weaver to 17 automatic looms, and one to 6 plain looms. This was the average, and on an average, one man handled 18 cards, with a boy or girl helper, to remove the sliver cans.

The average wage of the male weavers was Yen 2.12 per shift, and of the women, Yen 1.35. The average daily wage of the male spinners and other mill workers on piece work was Yen 2.72; on time work, Yen 2.06. The average for female spinners and other workers, both piece and time work, was Yen 1.35. To each of these, the mill reckoned that it must add Yen 1.00 per day as the pro rata cost of erecting and maintaining dormitories, houses for the men and their families, hospitals and doctors, and amusements, and food supplied. Thus, the average daily outlay for the 400 men in wage and provisions costs would be Yen 2.30 plus Yen 1.00, or Yen 3.30 = $1.65, or $9.90 per week of 51 hours. For the 1,200 women it would be Yen 1.35 plus Yen 1.00, or Yen 2.35 = $1.17, or $7.02 per week of 51 hours.

According to this mill superintendent, the cost of erecting dormitories for the

labor, exclusive of cost of land, averaged Yen 80,000 per 10,000 spindles, while maintenance was reckoned at Yen 4,000 per annum per 10,000 spindles. The cost of land in the suburbs adjacent to Osaka, for the erection of mills and dormitories, averaged from Yen 200 to Yen 400 per square tsubo, 6 x 6 = 36 square feet, or from $116,000 to $233,000 per acre. The company was now looking for suitable locations for new mills in outside villages, where the land could be bought for around Yen 5.00 per tsubo, or something like $2,500 per acre.

As this combine of twenty-three great mills has the reputation of being among the most successful and productive in Japan, although its last dividend was but 9 per cent, I do not presume to judge its twenty-two remaining mills by this one. Certainly, however, this was the most run down, and generally most disorderly mill, with the oldest and most ill-conditioned machinery, I saw in Japan. Started forty-five years ago, it adhered still to some of the old methods, evidently clung to by its immediate personnel, in spite of the progressiveness of the other mills in the company. The whole mill was dirty as to floors and machinery, with cotton waste literally all over the place. Looms, spinning frames and floors in many places looked as if they had grown a fleece of their own, under which adhered a mat of grease and lint, discoloured, hard and old. Weaving and spinning rooms were good, with the machinery well spaced; but in one room there would seem far too many hands, and in another, too few. There seemed little logic or order in some of the processes. Employees seemed to be working around each other, and around machinery and material that had been clumsily arranged. Many spindles were stopped, and very many looms waited attention. Three times I took a separate stand in the loom rooms, and each time I could see within the range of my eye, seven or eight looms stopped. The girls were rushed and clumsy. Contrasted with Beta Mill, where I waited in vain to see a single loom stopped, this whole system appeared infinitely inefficient. The latest machinery I saw was 1913, and this was only a few cards, breakers and finishers. In some instances they had women doing the hard jobs, usually given over to men, in the opening rooms, and also on the breakers and finishers.

They had three slashers, which were dirty and slovenly in operation, and the superintendent said that they gave their yarn a filling up to 36 per cent by weight. It was certainly extraordinarily stiff and sourish; by the time it reached the cloth-room, he said, it was reduced to about 10 per cent, but I should have thought it was more.

They are making only 29″ jeans and 36″ sheetings of standard construction, all for export. They use only 20s up to 24s, with only one count differing between warp and weft. They make, however, yarns up to 40s in small quantities, for selling other mills, producing the output of about 1,000 spindles in excess of the capacity of their own looms. In other words, their 45,000 spindles supply all the yarn their 1,550 looms can use.

They use, so the superintendent said, 50 per cent Indian cotton and 50 per cent American cotton for all yarns up to and including 20s. Over that count, they use all American. I saw comparatively little American cotton in the opening room, but a great preponderance of Indian, and some Chinese, which I had understood they did not use at all.

I somehow felt that the information that I was getting in this mill was so inconsistent as to be of little basic value. Its main usefulness was to show me that all

Japanese mills were not so clean and so admirably managed, nor their products so good, as those which I had seen previously. I do not mean to say that this mill was hopelessly inefficient; but on the surface it certainly could not be classed with other mills I had seen.

On the other hand, the workers struck me as being extraordinarily active, and the dormitories, kitchens, hospital, schoolrooms, baths, etc., for employees, were positively a delight. One must of course judge them from the Japanese standpoint rather than from a western standpoint. That is to say, these mill girls do not enjoy each her own room with hot and cold water, tiled bath, radio, oriental rugs, and grand piano, as would doubtless be the American ideal, but they are allowed more than the regulation three-mat space on highly polished wooden floors, in large, airy, spotlessly clean rooms, well heated, and with flower gardens on one side (infinitely superior to anything they could possibly have in their own homes). They have doctors and nurses, specialists for themselves and their families; they have classes to give them education up to the standards of the city grammar schools, and classes to teach them sewing and cooking; they have radio and cinema performances on the place, as well as a theatre for the regular stage attractions. They do not have grapefruit for breakfast, nor begin luncheon with consomme supreme; but they get a bountiful diet, of fish and rice, soy bean sauce, green vegetables and tea,—which is about all there is to the Japanese menu of the middle classes anywhere.

Mill Kappa

One of the most interesting mills I visited is beautifully laid out along the bank of a river in the Osaka district, with every room or weaving shed as open to sunlight and air as an American sun porch. Every piece of machinery I saw was either new, or kept in such perfect condition as to look new, and the whole mill, ceilings, machines, floors and windows, was as clean as clean.

This mill has 65,000 spindles and 1,700 Toyoda automatic looms. They have 600 male and 1,600 female employees, which are, of course, roughly divided into 300 men and 800 women, or 1,100 hands per shift. I could not quite reconcile this number of employees with the manager's statement that one girl could look after 2½ ring spinning frames of 340 spindles each, and that the average in the weaving sheds was one girl to 30 looms.

At this mill they were making ten different kinds of shirtings, of three different widths—36″, 41″, 44″—all for the Indian market. Generally speaking, the average construction of their cloths is 56 to 70 warp, and 70 picks; threads, 21s—30s warp, 24s–36s weft.

They told me that formerly, when they were working on a 10 hour shift, they employed more hands than at present with an 8½ hour shift, but that the production per loom per shift was as great now as it had been before, a little better, if anything. They ascribed this to the greater efficiency of the operatives who, put on piece work, had to earn in 8½ hours now what they had to earn formerly in 10; and who by this very need for speeding up had actually improved their efficiency with the machinery. That is to say, the Toyoda looms, working at 210 picks per minute on cloths of the average construction just given, could turn out an average of 40½ yards per loom per shift of 8½ hours, whereas they produced the same output formerly in 10 hours.

Machinery is Coming to Be Used for Many Things by the Japanese Farmer

Although Japan's large cities are becoming completely modernized, the spirit and customs of Old Japan still linger in the country districts. Note, however, the number of individuals in this group clothed in foreign or semi-foreign style.

The average earnings of the girls in the weaving sheds, tending an average of 30 looms, was Yen 1.65 per day, plus .30 sen food allowance over and above their own contribution. To this should be added 75 sen per capita, as their pro rata of the costs of dormitories and other maintenances, making their total wage Yen 2.70, or gold $1.35 per day. If these figures are accurate—and I believe they are—it is apparent that the total weaving labor cost is $1.35 per day for 30 looms producing 40 yards of cloth each, or 1,200 yards.

Girls in the spinning sheds get somewhat less; Yen 1.43 average pay for piece work plus .75 sen makes Yen 2.18, or $1.09 per day. And here, for the first time, I encountered the statement that this mill does not give a regular bonus to the female operatives; on the ground, the manager said, that they only agree to stay two years, but are free to leave at any time, and that the average duration of their service is one and a half years. This is at variance with the universal labor customs of Japan, and more particularly in the cotton industry. I was assured, however, in discussions with outside merchants and brokers, that this situation was probably true, owing to the exceptional treatment that this mill accorded its female employees while in its service, and their independence as to the duration of their service.

The men employees average Yen 1.73 per day, plus a bonus that averages about one month's additional pay per year. This mill has reduced its rest days from the customary four per month, to two per month, with the Government's consent, so that its working month generally consists of 28 days.

From the material they said they had supplied Mr. Pearse, they gave me the following figures:

Spinning production per spindle, 0.27 lbs. 30s – 10 hours (now same production in 8½ hours shift).

Cloth production per shift, 39½ yards per loom (now set up to 40½ yards), 70 picks per inch, 56 to 70 warp threads.

Labor and overhead charges (as given Mr. Pearse), for spinning 21s = Yen 37.00 per bale of 400 lbs. For this yarn they use 25 per cent Indian and 75 per cent American cotton.

Waste 10 per cent.

Assuming cost of cotton of this composition to be Yen 203.00 per bale, and labor-overhead Yen 37.00, total cost of the yarn would be Yen 240.00 per bale. The market price on Sampin exchange for standard yarn (Goldfish brand, 75 per cent Indian, 25 per cent American) being Yen 246.00, this mill's yarn of 25 per cent Indian and 75 per cent American would be held at Yen 21.00 per bale "on," or Yen 267.00, leaving a profit of Yen 27.00, or $13.50, per bale of 400 lbs.

Seconds in this mill, they told me, amounted to 3 per cent, and loom efficiency they placed at 90 per cent to 93.5 per cent, looms running from 190 to 220 picks per minute.

This mill had some Whitin spinning frames, which they declared to be inferior to Platt's English and Rieter's Swiss spinning and drawing frames. All their latest machinery, however, including slasher, ring frames and cards, were made by the Toyoda loom works, and looked to me at least the equal of European or American machinery. I felt convinced, after seeing the machinery in this mill, that it is only a question of comparatively short time until all Japanese cotton mill machinery will be manufactured in Japan, at a great saving in economy, and no loss in efficiency.

Profits and Reserves

The latest figures of the Japan Cotton Spinners' Association show that at the end of June, 1929, their membership consisted of 59 companies owning 245 spinning and weaving mills, with an authorized capital of Yen 507,346,250; paid-up capital Yen 387,323,852; the total reserve funds amounting to Yen 256,529,161—or roughly two-thirds of the total paid-up capital. The total number of spindles within the organization was 6,347,306, and the total number of looms 74,388. The average total of daily operatives in June, 1929, was 35,000 males and 125,000 females. The following table taken from The Cotton Statistics of Japan, as reported by the Japan Cotton Spinners' Association (page III) gives the actual cotton piece goods produced and the number of mill operatives from 1907 to June, 1929.

COTTON PIECE-GOODS PRODUCTION AND OPERATIVES

(*Sub-work by Spinners only*)

Years	*Average Working Looms*	*Production of Cotton Piece-Goods*	*Yarn Consumed*	*Daily Operatives in Average*		
				Male	*Female*	*Total*
		Yards	Lbs.			
1907	9,245	135,253,029 102,533 (doz.)	44,262,958	1,525	8,727	10,252
1908	9,496	147,443,838	47,676,427	1,484	8,683	10,167
1909	11,585	181,976,972	57,388,586	1,871	11,496	13,367
1910	14,911	226,313,958	71,197,654	2,486	13,604	16,090
1911	17,884	289,039,671	82,498,136	2,656	17,133	19,789
1912	20,208	342,584,684	93,562,721	2,795	18,006	20,801
1913	23,299	416,725,357	111,159,616	3,298	21,956	25,254
1914	24,911	454,901,674	123,863,966	3,569	22,459	26,028
1915	27,687	502,076,621	124,632,631	3,547	22,930	26,477
1916	30,110	560,181,108	136,413,408	3,737	23,245	26,982
1917	31,920	594,649,419	142,770,758	4,333	24,434	28,767
1918	36,365	656,935,420	160,301,569	5,532	29,713	35,245
1919	40,969	739,390,012	179,788,560	7,635	37,040	44,675
1920	44,635	762,037,360	189,651,320	8,005	39,048	47,053
1921	44,109	700,697,985	179,427,501	7,078	32,182	39,260
1922	51,033	869,327,652	214,327,505	7,857	38,102	45,959
1923	52,972	1,000,708,890	240,979,975	7,962	40,549	48,511
1924	56,351	1,030,905,958	241,319,095	8,179	43,056	51,235
1925	62,976	1,179,524,733	274,472,668	8,703	47,023	55,726
1926	65,699	1,277,726,954	294,334,545	9,216	48,177	57,393
1927	66,733	1,294,668,822	293,166,913	8,648	41,879	50,527
1928	70,606	1,382,034,413	303,008,225	8,259	35,446	43,705
1929	70,210	1,538,249,015	335,267,259	8,598	34,873	43,471

Figures supplied by Japan Cotton Spinners' Association

Dr. Arno S. Pearse, General Secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations of Manchester, has compiled from

FINANCIAL RESULTS OF THE MILLS IN MEMBERSHIP WITH THE JAPAN COTTON SPINNERS' ASSOCIATION FROM 1907 TO 1928

Specially compiled from tables of the Japan Cotton Spinners' Association and other sources

In yen

Year	Paid-up Capital	Reserves	Loans	Fixed Assets	Half-years July 1			Dividend per cent. p.a.	Consul de Roos' figures		Yearly Depreciation	Percentage of Depreciation to Fixed Assets
					Profits	Addition to Reserves	Balance carried forward		Equivalent Spindles	Value per Spindle		
1928	376,817,127	241,821,054	99,254,492	507,732,724	34,232,216	5,768,637	48,248,942	13.85	—	—	—	—
1927	342,265,587	227,372,280	71,818,919	434,314,234	26,992,890	4,760,448	42,634,965	14.60	6,684,000	64.90	10,456,879	2.41
1926	356,624,017	221,157,354	73,198,510	457,149,663	27,400,510	5,350,773	33,737,350	15.05	6,533,000	71.30	9,972,078	2.18
1925	345,267,318	211,151,292	57,105,091	410,434,869	37,726,240	6,476,571	47,582,063	16.65	6,255,000	67.90	15,905,376	3.88
1924	329,561,100	200,722,103	38,096,591	355,883,865	33,806,693	5,849,994	39,028,032	16.25	5,866,000	66.80	12,430,006	3.49
1923	310,957,393	202,984,739	31,145,008	332,464,921	39,984,226	7,831,638	46,603,713	24.25	5,102,000	69.00	9,054,964	2.72
1922	315,921,328	185,263,659	21,492,940	281,700,804	54,727,199	10,374,945	45,946,277	25.00	5,440,000	54.40	14,507,179	5.15
1921	275,289,308	164,042,927	31,203,649	207,342,775	33,976,339	5,315,872	28,996,449	24.45	5,001,000	49.20	14,076,299	6.79
1920	146,080,420	124,248,191	26,000,332	167,640,261	102,485,120	36,262,311	38,416,221	37.45	4,575,000	40.90	17,857,075	10.65
1919	142,757,670	97,558,213	28,569,325	130,178,162	55,571,065	17,165,082	28,875,130	50.45	4,149,000	34.50	20,575,540	15.81
1918	124,355,220	67,702,917	29,254,222	113,069,310	45,196,004	12,199,286	23,439,892	51.20	3,841,000	32.00	7,456,065	6.59
1917	106,209,250	49,133,423	25,715,864	109,173,696	31,449,238	9,114,033	17,428,994	37.25	3,623,000	29.80	17,250,705	15.80
1916	83,955,687	37,652,374	23,627,150	116,410,870	13,248,575	2,704,033	10,627,330	21.65	3,375,000	32.90	15,013,087	12.90
1915	83,252,769	36,632,109	24,291,721	121,869,767	8,045,833	1,299,611	7,517,737	15.20	3,285,000	37.10	5,914,977	4.85
1914	85,864,672	34,849,928	26,575,533	113,452,050	8,633,568	1,226,260	8,330,514	14.85	3,078,000	36.70	3,825,079	3.37
1913	75,722,484	30,092,279	20,515,178	96,336,770	9,633,832	2,604,680	6,633,342	14.45	2,790,000	37.60	7,680,113	7.97
1912	61,839,992	26,751,202	20,277,265	96,764,768	5,698,730	1,330,219	3,150,523	13.10	2,546,000	37.70	6,164,292	6.37
1911	61,541,954	25,879,277	24,445,804	93,980,925	3,889,754	649,996	327,958	10.30	2,511,000	38.20	2,111,502	2.25
1910	64,034,540	25,980,335	23,768,543	91,163,244	2,962,467	775,033	549,104	9.56	2,405,000	39.50	1,462,361	1.60
1909	58,041,257	24,075,380	17,726,686	68,833,472	4,538,701	964,203	2,316,090	11.46	2,195,000	37.30	3,279,309	4.76
1908	57,193,538	23,120,646	8,101,603	51,158,744	3,373,014	630,727	2,343,475	11.05	1,967,000	28.90	1,260,825	2.46
1907	50,932,238	19,120,271	3,160,866	43,736,965	8,648,926	3,115,954	2,294,457	20.60	1,706,000	25.80	2,763,514	6.32

tables of the Japan Cotton Spinners' Association and other sources a table which appears in his report upon the financial results of the mills and membership of the Japan Cotton Spinners' Association for 1927 and 1928, and he has kindly given me permission to make use of it. This table (page 27) is interesting as showing the paid-up capital of the Association's membership for each year; reserves; loans; fixed assets; profits; dividends; number of spindles; value per spindle; yearly depreciation and percentage of depreciation to fixed assets.

That, in spite of the recently declining markets in China and India, some of Japan's leading cotton mills continue to be in very flourishing condition is indicated by the financial reports of several of them for the first six months of 1929. The Kanegafuchi Spinning and Weaving Company, one of the largest in Japan, made a net profit during the six months January to June, 1929, of Yen 6,322,000, or 44.2 per cent, on its paid-up capital. It issued a dividend of 35 per cent, and its reserves of Yen 48,105,747 equaled 164.8 per cent of its paid-in capital of Yen 28,595,737. Owing to the decline of silver in China and the imposition of additional tariff duties in India on imports of piece goods during the Spring of 1930, Kanegafuchi announced last March that it would reduce its dividend for the present year from 35 to 30 per cent.

The Dai Nippon Company, the largest in Japan, with a total of nearly 1,000,000 spindles and 9,500 looms, made a net profit of Yen 5,328,000, or 20.5 per cent, on its paid-in capital, while its reserves amount to 97.4 per cent. The Fuji Gasu Spinning and Weaving Company reported for the same period a profit of but Yen 1,867,000, or 11 per cent, and paid a dividend of but 8 per cent, while its reserves totaled only 28.5 per cent of its paid-in capital. It proved the least prosperous of the "Big Nine" which manufacture 85 per cent of Japan's total cotton textiles for export. Kishiwada, with a capital of Yen 6,200,000, has reserves of 11,230,000. Naigai Wata, not among the foremost combines operating in Japan but the largest Japanese mill combine operating in China, reports a paid-up capital of Yen 13,250,000 and reserves of Yen 16,393,000. Of course many of the smaller combines have found hard sledding in recent years, but the report of the Japan Cotton Spinners' Association for 1928 showed for all its members a total paid-up capital of Yen 379,517,127, reserve funds of Yen 248,809,876, and profits of Yen 39,000,853. The annual dividend for all members of the Association for 1928 was averaged at 13.85 per cent. It must be admitted that this is a low figure compared with the average dividend of 51.20 in 1918; and it is a fact that the average annual dividend has fallen with each succeeding year since. This has been due, however, to the tremendous expansion that has been taking place in the industry as well as to the boycott on Japanese goods in China and increased competition in both China and India.

One of the best reviews that I saw while in Japan of Japanese mills appeared in the *Trans-Pacific* (supplementary to the *Japan Advertiser*) of September 19, 1929, relative to the profits and reserves of Japan's textile mills at that time. I venture to quote it here in full because of its accepted accuracy and unusual interest:

Profits and Reserves Japanese Textile Mills

Satisfaction characterized spinning business results in Japan for the first six months of this year, although eight leading mills kept unchanged their dividend rates. These eight big mills that are taken up for review are the Kanegafuchi, Dai Nippon, Toyo, Fuji Gasu, Nisshin,

Osaka Godo, Kurashiki and Naigaimen spinning companies in the order of their business status. The Toyo Spinning realized the largest profit for the term, totaling Yen 7,542,000, and next came the Kanegafuchi Spinning with Yen 7,072,000, the third being the Dai Nippon Spinning with Yen 6,393,000.

In the profit rate against the paid-up capitalization, the Kanegafuchi got the highest, 49.5 per cent; Toyo, 40.9 per cent; Osaka Godo, 30 per cent; Nisshin, 29.7 per cent; Naigaimen, 29.6 per cent; Dai Nippon, 24.3 per cent; Kurashiki, 23.1 per cent, and Fuji Gasu, 15.3 per cent. The Kanegafuchi, Fuji Gasu, and Naigaimen spinning are the only three companies that advanced in their profit rates over the term before and two terms before and the Dai Nippon and Nisshin are better than the term before, the Toyo and Osaka Godo are the same and the Kurashiki is the only company that went off from the preceding two terms. None of these eight mills changed its dividend rates for the term and, although business was not very good, it can be said that they yielded rather satisfactory results.

The Naigaimen is given the highest credit for having devoted 54 per cent of its profit to internal reserves. The extent of money apportioned to the same purpose is 42.7 per cent for the Fuji Gasu, 41.6 per cent for the Nisshin, 35.1 per cent for the Toyo, 34.3 per cent for the Dai Nippon, 33.3 per cent for the Godo Spinning, 25.7 per cent for the Kanegafuchi and 24.3 per cent for the Kurashiki.

The Dai Nippon during the term under review had the largest number of spindles of 830,768, and the Kurashiki the lowest of 271,964 spindles. All except the Fuji Gasu increased in the number over the same period of the two preceding years. The increased installation was forced by these mills to meet the abolition of the late night operation.

The ratios of reserves, debts and fixed assets to their paid-up capitalization at the end of last term follow:

	Ratios to Paid-up Capital (In Per Cent)		
Mills	*Reserves*	*Debts*	*Fixed Assets*
Kanegafuchi	164.8	129.9	143.0
Dai Nippon	97.4	12.6	116.2
Toyo	137.8	4.8	124.2
Fuji Gasu	28.5	79.9	146.5
Nisshin	32.2	62.0	144.3
Osaka Godo	120.0	20.6	95.3
Kurashiki	59.4	146.6	123.3
Naigaimen	124.6	15.0	155.7

Japanese spinning companies have increased the installation of rings by 1,280,108 spindles and that of mules by 8,148 during the last four years and a half to meet the situation following the abolition of the late night work commencing July 1. This means an increase of 25 per cent in the former and 12 per cent in the latter. The production of cotton yarn has not increased in proportion to this increase of productive capacities.

	Average Working Spindles	*Cotton Yarn Output (Piculs–133 lbs.)*
1924	4,115,692	2,072,817
1925	4,669,753	2,436,785
1926	5,002,932	2,607,746
1927	4,831,430	2,530,692
1928	4,843,592	2,451,862
Jan.-June, 1929	5,418,774	1,347,759

A sudden increase of equipment was realized during the first six months of this year, due to the approach of the fixed date of the abolition of the late night work. The yarn production

during July and August was insignificant, due to the regular dull season, but it will increase heavily after August.

Cotton Mill Profits Compared with Other Industries

From the November 14, 1929, edition of the same publication I also copy herewith a summary showing the net profits for the first half of 1929 of certain cotton mills as compared with other leading industries and business corporations of Japan. Assuming that the figures as given are sufficient and accurate this table forms an illuminating commentary upon the general business situation in Japan today.

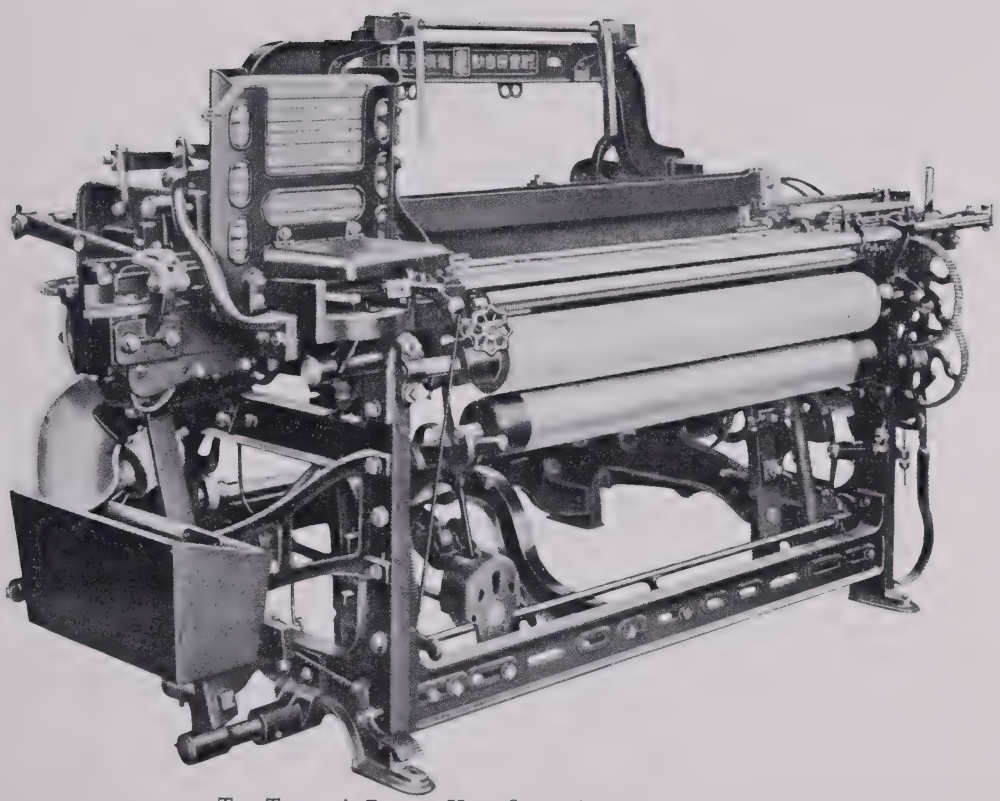
The net profit and rate of profit to the paid-up capitalization of various business corporations, including banks, trust companies, textile mills, etc., for the first six months of this year, as prepared by the Mitsui Gomei Kaisha (Mitsui Bank Ltd.) follow:

	Net Profit (In 000 Yen)	*Rate of Profit (Per Cent)*
Spinning and Weaving—		
Kanegafuchi	6,322	44.2
Dai Nippon	5,328	20.5
Fuji Gasu	1,867	11.0
Banks—		
Yokohama Specie Bank	9,346	18.7
Bank of Japan	4,981	26.5
Mitsui	4,610	15.3
Mitsubishi	1,875	..
Sumitomo	2,776	11.1
The Bank of Japan decidedly claims the best business and the Yokohama Specie Bank comes second.		
Trust Companies—		
Mitsui	798	21.3
Mitsubishi	342	9.1
Electric Light and Power—		
Tokyo Light	17,262	8.5
Tokyo Power	6,837	10.9
Daido Power	6,900	10.5
Nippon Power	4,636	10.0
Gas—		
Tokyo Gas	4,869	9.7

Other companies have no comparison with the Kanegafuchi Spinning Company on the outstanding results of business for many years.

The Toyoda Loom

The Japanese have developed a new automatic loom, which they claim excels in speed and precision any other loom in existence, and they are putting it into operation with considerable rapidity. One hears so much of the Toyoda loom among foreign cotton men in Japan, and so many opinions of its possible effect on the future of Japan's cotton textile industry, that some discussion of it seems desirable. The new loom (see illustration) is claimed as a strictly Japanese product, although based, of course, upon Western principles of loom construction. It is the invention of Mr.



The Toyoda's Patent High Speed Automatic Loom

Sakichi Toyoda, who perfected it in 1926 in the Toyoda Spinning and Weaving Mills.

The Toyoda Automatic Loom Works, in conjunction with the Spinning and Weaving mills, has developed within the past three years a new plant at Kariya which manufactures exclusively looms and ring spindle frames of the high draft system. The factory now produces about 500 of these automatic looms per month, but is equipped to make up to 700 a month. Since it began manufacturing in 1926, it has constructed and sold over 13,000 Toyoda automatic looms in Japan. Only a few, probably less than 200, have as yet been sold in China and India. There seems a decided disposition in India, however, to install more Toyoda automatics as the need for new looms arises. But successful operation of the Toyoda loom requires more skill on the part of the operatives than the plain looms, and it is a question whether the Indian mills are likely to develop sufficiently skilled operatives to handle any considerable number of the new looms, at least for some time.

In December, 1929, a contract was signed between the Toyoda Company and Platt Bros., of Oldham, England, giving Platts the exclusive right to manufacture and sell Toyoda looms upon a royalty basis in Great Britain, the continent of Europe and British possessions including Africa and India. Virtually the only territories reserved were China and Japan, for Japanese exploitation, and the United States. Toward the end of January, 1930, mechanics of the Toyoda factory left for England to instruct the Platt engineers in the various processes of setting up the new loom manufacture. It is one of the rare instances in which Japanese experts in engineering and mechanics have been sent abroad to instruct Western experts in construction.

In the United States negotiations have been carried on with a famous loom manufacturing company of Boston to manufacture and sell Toyoda looms in the United States upon the same royalty basis as Platts are doing in Great Britain, and two Toyoda looms are now, it is understood, on exhibition with the Boston company.

These automatic looms are made in 38″, 42″, 44″, 50″, and 58″ widths. It is claimed that a well-trained Japanese girl weaver can handle 60 of these automatic looms, 38″ wide, running an average of 230 picks per minute on 20s–30s yarn, and that green hands can tend from 30 to 40 looms each, of similar width, running at the rate of 190–210 picks per minute. In some mills the 38″ loom is run as fast as 250 picks per minute. The 44″ looms run as high as 220 picks per minute. On 50″ looms, the Toyoda Mills average 205–210 picks, but less experienced hands working on 20s–60s yarn average a little over 190 picks.

The finer the yarns the more effective the loom, it is claimed. Mr. F. Abe, President of the Japan Cotton Spinners' Association, and head of the great Toyo Spinning combine, expressed the opinion to me that while Toyoda's was a wonderful loom it was better with the finer counts and required too skilled operatives at the present time to make its usage universal in Japan.

An interesting feature as showing the cooperation that exists between Japanese units in the cotton textile industry is that the Toyoda Automatic Loom Works and Spinning Company, which manufactures these looms, constantly is supplied with green girls to whom it gives thorough training and then sends them out to the mills to which it has sold looms.

I was impressed with the Toyoda machine shop and factory. Every room was light, clean, and airy, without anywhere artificial light, equipped with automatic

power-hammers and modern tool and metal-cutting machinery in a high state of order and apparent efficiency. All work is piece work, every machine and machinist appeared to be going at full capacity and in excellent condition. There were no reverse motions nor unutilized spaces from process to process. At exactly the right moment in the right carrying forward of the processes, the carpenter shops, in which the bobbins and all wood parts of the loom are worked out by hand, are introduced alongside the metal-working shops. The director said that they had found hand work in making the wood parts of the loom both more efficient and more economical than machinery. To the left of the metal-working shops was the foundry and brass-cutting shop. They give their cast iron special treatment to resist rust, and all bearings of brass and white metal seemed very carefully hand tooled. Every particle of the loom, even the screws, is made in the factory, no parts bought.

I was told that the average price of the Toyoda automatic loom in the open market was Yen 550. The 42″ loom sells for Yen 500, as compared with Yen 900 for a 38″ American standard automatic loom laid down at Osaka. I was told that a representative of an American firm came to Japan last year to spend a year selling looms but that after going through the Toyoda plant he took the next boat back to the United States, commenting that there was nothing for foreign loom manufacturers in Japan.

Cotton Constructions and Prices

I give below a list of the principal export lines of Japanese grey piece goods sold in the markets of India and China, together with their construction and prices f.o.b. Osaka. From this list American manufacturers of grey piece goods should be enabled to compare their own output with that of the Japanese.

Grey Cotton Sheetings

	Size	*Price per Piece*	*Weight*
"Lion CCC"	36″ x 40 yds.	Y6.35 —$3.18	
" (Cal'd)	36″ x 30 yds.	Y4.775—$2.39	
"Cat & Hat CCC"	36″ x 40 yds.	Y5.85 —$2.93	
" (Cal'd)	36″ x 30 yds.	Y4.40 —$2.20	
"Dragon C"	36″ x 40 yds.	Y6.15 —$3.08	
" (Not Cal'd)	36″ x 30 yds.	Y4.65 —$2.33	
"3 Star 1100"	36″ x 40 yds.	Y4.60 —$2.30	11 lbs.
" (Cal'd)	36″ x 30 yds.	Y3.45 —$1.73	8¼ "
"	36″ x 40 yds.	Y4.60 —$2.30	11 "
" (Cal'd)	36″ x 30 yds.	Y3.45 —$1.73	8¼ "
"3 Star 1200"	36″ x 40 yds.	Y4.80 —$2.40	12 "
" (Cal'd)	36″ x 30 yds.	Y3.60 —$1.80	9 "
"	36″ x 40 yds.	Y4.80 —$2.40	12 "
" (Cal'd)	36″ x 30 yds.	Y3.60 —$1.80	9 "
"3 Star 1300"	36″ x 40 yds.	Y5.50 —$2.75	13 "
" (Cal'd)	36″ x 30 yds.	Y4.125—$2.06	9¾ "
"	36″ x 40 yds.	Y5.50 —$2.75	13 "
" (Cal'd)	36″ x 30 yds.	Y4.125—$2.06	9¾ "
"3 Star 1600" (Cal'd)	34½″ x 40 yds.	Y6.75 —$3.38	16 "
" (Cal'd)	34½″ x 40 yds.	Y6.75 —$3.38	16 "

(40 yds.—20 pieces; 30 yds.—30 pieces, per bale)

STRIPED COTTON TWILLS

	Size	*Price per Piece*
70 x 50 threads per 1 sq. inch	25″ x 30 yds.	Y3.20 —$1.60
" " " " " "	25″ x 30 yds.	Y3.20 —$1.60
" " " " " "	26″ x 30 yds.	Y3.325—$1.66
" " " " " "	27″ x 30 yds.	Y3.45 —$1.73
74 x 49 " " " " "	25″ x 30 yds.	Y3.30 —$1.65
" " " " " "	26″ x 30 yds.	Y3.425—$1.71
" " " " " "	27″ x 30 yds.	Y3.55 —$1.78
74 x 52 " " " " "	25″ x 30 yds.	Y3.45 —$1.73
" " " " " "	26″ x 30 yds.	Y3.575—$1.79
" " " " " "	27″ x 30 yds.	Y3.70 —$1.85

(30 pieces or 40 pieces per case or bale)

GREY COTTON DRILLS

	Size	*Price per Piece*
"Two Geese"	29½″ x 40 yds.	Y6.25 —$3.13
"Elephant and Pagoda"	30″ x 40 yds.	Y7.00 —$3.50
"Lion"	30″ x 40 yds.	Y6.40 —$3.20
"2 Birds on Branches"	30″ x 40 yds.	Y6.80 —$3.40

(20 pieces per bale)

GREY COTTON JEANS

	Size	*Price per Piece*
"Mine and Torpedo"	30″ x 120 yds.	Y10.45—$5.23

(20 pieces per bale)

"Bamboo Boy"	44″ x 45 yds.	Y6.30—$3.15
"Snipe"	44″ x 46 yds.	Y7.20—$3.60

(50 pieces per bale)

—X—Today's (Feb. 3rd, 1930)
Sampin Cotton Yarn Quotations . . . . . Y175.60—$87.80 (Spot) 20s
Y185.80—$92.90 (Aug. 1930) 20s

—X—Today's (Feb. 3rd, 1930)
American Raw Cotton Quotations . . . . . ¢16.50 (Spot)
¢17.23 (January, 1931)

Among the foregoing will be noted a standard sheeting, brand Lion CCC, manufactured by the Dai Nippon Boseki K.K., which is by volume the biggest sheeting exported to India today, also in considerable quantities to South America. Its price is f.o.b. Osaka Yen 6.35 per piece of 40 yards, or just short of 8 cents gold per yard. An expert has prepared for me the analysis given below of the mills' costs and profit on this cloth. The figures are his, and I have full confidence in them:

LION CCC (*brand*)

Roughly 14s count (13¾ to 14 lbs. per piece of 40 yds.):
Today's price of yarn is, say generously, Yen 160 per bale of 400 lbs.; i.e., 40 sen per lb.
Actual weight of yarn in piece (remainder sizing etc.), 12 lbs., or slightly less.

Yarn cost, then, 12 lbs. @ 40 sen	Yen 4.80 per piece
Selling price	6.35 " "
Gross profit	1.55

Average costs of manufacture (weaving, packing, sizing, etc.) from Yen 0.80/1.00

Net Profit thus Yen 0.55 to 0.75 per piece, *plus* profit on yarn, cost of which today should be as given below, assuming composition of yarn to be about as follows:

20 per cent Middling American (above average for 14s)
50 " " Bengals
30 " " Oomrahs, or similar Indian

Market Price:

7/8 Middling	Yen 48.50 per picul (132⅓ lbs.)
Fine Bengals	28.00 " "
Fine Oomrahs	32.00 " "
Yen 48.50 x 20%	9.70
28.00 x 50%	14.00
32.00 x 30%	9.60
	Yen 33.30 average cost per picul

3½ piculs raw cotton (½ picul wasted in manf. 1 bale of cloth) at Yen 33.30 per picul	Yen 116.00
Spinning and all other costs	40.00
Total cost	156.00

Thus NET PROFIT on one bale (20 pieces) of sheetings, say, Yen 0.60 per piece, or Yen 12.00 per bale, plus, say, Yen 4.00 per bale of 400 lbs. yarn . . . . Yen 16.00 per 400 lbs.

This expert stated most emphatically that the mixing of their cottons is the main secret in Japanese manufacture at a low cost. Every mill has its own formulas, which differ for the same count according to the price at which the yarn is sold, or the purpose for which it is wanted. Generally speaking they use ordinary Bengal cotton up to 11s or 12s, and higher grade Indian cotton alone up to 20s. Some mills use for 20s 80 per cent Indian and 20 per cent 7/8 inch American middling, as given above for 14s. For 30s many mills use all American cotton, better than strict low middling. Others use 80 per cent American and 20 per cent Indian. For 40s and higher, the mills generally claim to use American alone, at least until they get above 60s. The manager of the "Alpha" mill at Tokyo told me that he was spinning up to 120s with Egyptian and Uganda cotton mixed, but the Osaka experts are inclined to question his statement.

The "Sampin" Exchange

In Osaka is the "Sampin" exchange, where gambling in futures on cotton yarns constitutes the principal activity. "Sampin" means three commodities, and referred to the original deals on the exchange which comprised speculations on raw cotton, cotton yarns and cotton textiles; but the exchange no longer concerns itself with cloths. The basis for its raw cotton transactions is one picul (132⅓ lbs.) of strict middling 7/8 inch staple U. S. Standard American cotton; and the basis for cotton yarns is 20s twist KINGO (Goldfish) brand of the Toyo Boseki K.K., which the exchange selected as the standard in 1927. At regular intervals during the year the

standard qualities of yarn of the different companies are examined and compared with this Goldfish brand, and their discounts or premiums "on or off" the standard are fixed.

It is generally understood that the Sampin standard, or 20s Kingo of the Toyo Company, is made of 25 per cent American and 75 per cent Indian cotton. One of the experts tells me, however, that the composition of standard 20s may be made up as follows:

20 per cent S.M. American, 7/8 staple
30 " " Bengals
50 " " Oomrahs

Or it may be made up of 20 per cent strict middling, 30 per cent Chinese and 50 per cent Oomrahs—in which case it would be quoted on Exchange at Yen 12.00 per bale of 400 lbs. "off." Should it be made of 20 per cent American and 80 per cent fine Oomrahs, it would be quoted at Yen 7.00 "on."

Raw Cotton Houses

Of the total raw cotton supplied to the mills of Japan, 70 to 80 per cent is imported by the three great houses, Toyo Menkwa Kaisha Ltd., or the Oriental Cotton Trading Company, a subsidiary of Mitsui Bussan Kaisha Ltd. (known in the United States as Southern Cotton Company); Nippon Menkwa Kabushiki Kaisha, or the Japan Cotton Trading Company, the largest; and Gosho Kabushiki Kaisha, or the Gosho Merchants Company. Two smaller firms, that of Volkart Bros., a Swiss firm with branches throughout India and the Far East, and the old Indian house of Ralli Bros., Karachi and Bombay, have lately established themselves in Osaka, the Volkarts under the name of Nichizui Trading Company, and the Rallis as Showa Menkwa K. K. Both these firms not only sell raw cotton from India to the Japanese, but they are very important distributors of Japanese cotton piece goods in India through their great number of branches there. Another foreign cotton house long established in Japan is a branch of the great Indian industrial house of the Tata family, but it has never been a factor of importance and is now about to withdraw from Japan.

Dr. Pearse states in his report, "The cooperation of these powerful world-wide organizations has been a great factor in the building up of the cotton industry of Japan. It is a unique advantage, not imitated, but created through the spirit of group combination inherent in the Japanese family system."

The speculative deals of these firms in raw cotton—due to which it has been claimed that the Japanese buy their cotton abroad cheaper than the mills of any other country, and are enabled to deliver American cotton in Osaka at 1 cent per pound less than New York prices—appear to have led to a good deal of confusion of thought, and to have been given undue importance as an economic factor in the success of the cotton industry. The facts, as I get them, are that Japan's raw cotton buyers abroad do not get their cotton under the market price obtaining in their locality, but that the Japanese merchants do, owing to the fact that the raw cotton dealers are speculators rather than merchants, and that they frequently sell cotton for future delivery to the mills at from 1 per cent to 5 per cent below New York quotations, gambling that before due date of delivery they will be able to cover themselves. Thus if New York's quotation for May delivery is Yen 53 per bale, the merchant may offer the

mills cotton for May delivery as low as Yen 49. If his offer is accepted he watches the market until it sags low enough for him to cover. If it goes against him he takes his loss and attempts to balance by contrary operations in the New York market. They always try to sell as far ahead as possible, and most Japanese mills buy their requirements for at least three months ahead, sometimes six, and in 10,000 bale lots. There may be as many as 50,000 or 60,000 bales on hand at once.

This speculative buying and selling of cotton is by no means confined to the Japanese. It is frequent in New York and Liverpool also, but it has been apparently universal with the Japanese for the past ten years, and while the mortality has been great among some of the smaller fry, the big houses have gotten away with it so far. Dr. Pearse thinks so much of it that he refers to it on page 141 of his report:

"I would attribute as a second cause for Japan's rapid advancement what we in Europe would call speculation," he says, and goes on to quote from the official publication of the Japan Cotton Spinners' Association, "'At the commencement of hostilities (the World War) the mills in Japan had to contract purchases of raw cotton at about Yen 30 per picul (132⅓ lbs.) to cover their requirements for a whole year or longer, twice as much as they used to do in the normal time. . . . In the course of time the price of raw cotton steadily advanced to 100 yen or more, followed by a still greater advance of cotton yarn price in Japan.'

"None of that cotton," continues Dr. Pearse, "was hedged.

"It was a great surprise to me that not one of the big combines and very few, if any, of the financially weak mills hedge their cotton purchases. I made absolutely sure about this, and asked the presidents of the cotton combines, several of their mill managers, and all the leading cotton merchants, and I was assured time after time that it is quite a common occurrence for these combines to have 30,000, 50,000 and at times 80,000 bales unhedged. If the price goes against them they buy more cotton, and they argue that, after all, 30,000 bales only represents one month's consumption for the average combine and cannot be regarded as a speculation.

"The profits made in this way during the war have enabled them to build up such huge reserves that the average reserves of all the mills belonging to the Japan Cotton Spinners' Association, which represents today 97 per cent of the total spindles of Japan, is over 60 per cent of the paid-up capital, and that of the large combines, substantially over 100 per cent of their paid-up capital, etc."

A foreign cotton man in Osaka gave me the following explanation of the system:

"The local merchant, regardless of whether he buys from locally represented American shippers or whether he buys from his own organization in the United States, cannot and does not buy it cheaper than anybody else. He buys in direct competition with the merchants of other countries.

"As a matter of fact, the Japanese merchant pays perhaps 1½ to 2 per cent more for his cotton than does, for example, the British merchant, due to the higher freight rate and to losses in interest on account of the fact that it takes his cotton about one month longer to get to Japan. The Japanese merchant, however, undoubtedly takes a longer and more voluminous shot at the market than the cotton merchants of any other country, and he is willing to let his mill clients have the benefit of his speculations. These may at times appear to the outsider as downright senseless, but more often than not there is method in his madness. The merchant may, for instance, operate on American/Indian parity, selling to his mill clients American cotton very cheap and at the same time buying up Indian cotton when the price of the latter is below nor-

mal parity with the American. Later, when the parity goes back to normal, the merchant reverses his operation by selling locally his Indian longs and by buying in his American shorts."

In spite of this weight of authority, and the apparent success of the scheme, I cannot give it value as a permanent factor in the prosperity of Japan's cotton textile industry. It seems to me an economic monstrosity that has worked good fortune to a few big, lucky gamblers, but that has depended for the most part for its profits upon the high quality of organization and the efficiency of the mills.

Depreciation

Dr. Pearse's report (page 33) gives, *in parvo*, the situation which I found in Japan with regard to depreciation; but it was given from figures which I was unable to obtain, and it is therefore quoted in full:

"From the writer's many interviews with leaders of big combines and smaller mills, he can state without fear of contradiction that amongst the Japanese mills there is not one which pursues a policy of a fixed percentage of depreciation. It is the custom in Japan (and in China) to consider depreciation only after allocation of profits and reserves. Japanese like to see big reserves; they strike the eye. A glance at our Table I shows clearly that in years of big profits as much as 14 to 15 per cent have been written off, but in times of normal profits, and by these 14 to 15 per cent are understood, the depreciation amount dwindles down to 1½ or 2 per cent. To us in Europe such procedure would seem to be unwise; a mitigating factor in favor of Japan is that the mills under normal conditions spend a great deal more money on the upkeep of machinery than is the custom in Europe. Japan has written off as a maximum 15.9 per cent when she paid 32¼ per cent in 1917, and 14.9 per cent in the following year when she paid 15.20 per cent in dividends. We venture to think that a conservative firm in Europe would not consider such amounts too high in ordinary years, taking into consideration that the Japanese mills worked 2½ times as long and that they are always subject to earthquake dangers.

"It is generally believed that the book values of spindles bought between 1927 and 1917 are on an average Yen 90, whilst the book values of spindles bought before 1917 are about 29 Yen, and more than three million of these are still working. The spindle value of the "big four," viz., Dai Nihon, Toyo, Kanegafuchi and Osaka Godo, should be about Yen 37 as an average, and if the whole industry were to be placed on the same basis, almost half the value would have to be written off.

"Owing to the fortunes of three wars the Japanese cotton industry has not known lately what normal or even unfavorable years are; it has always made such big profits that it had little need to think about depreciation in its costings.

"The depreciation allowed on the yearly reduced book value by the revenue authorities is stated to be as follows in actual practice:—

	Per Cent
Carding and preparatory machineries	4.4
Warping and sizing	5.45
Spinning and weaving	3.7
Mills and godown (brick)	3.2
Office building (brick or concrete)	1.2
Dormitories, etc. (wooden built)	5.45

Taxation

Taxation, both of individuals and of business institutions, in Japan is very heavy, but in certain circumstances the rate may differ for different concerns and at

any event details are difficult to obtain. If one may lump all taxes of the cotton mills together and attempt to reduce it to a unit, in the case of those companies with the largest visible assets the taxes work out to about Yen 4.80 per bale of 400 pounds yarn production. Calculated per pound of raw cotton used, the total taxation would come to about Yen 0.012. Those companies with less reserves pay less taxes, and the taxes of the smaller concerns average about Yen 2 per bale of yarn.

Import Duties

Japanese import duties on cotton yarns and cloth vary according to the quality. Unbleached cotton yarns up to 20s pay a duty of $2.90 per picul of 132⅓ pounds. On unbleached 40s the duty is $3.20; on 80s, $5.50 per picul. On bleached yarns the duty is 50 cents gold per 132⅓ pounds higher than on unbleached for the same counts.

On cotton cloths it may be stated in general that the duties on imported cloths generally amount to 100 per cent ad valorem, they being classed in the "luxury" tariff. The Japanese industry is determined to permit no outside competition in its home markets. There is a tendency, however, to reduce or remove the import tariffs on the coarser cotton yarns in order that these may be supplied to the home market from the Japanese mills in China, thus leaving the mills in Japan freer to manufacture finer count goods.

Cost of Erecting Mills

According to Dr. Pearse's report, the cost of erecting a mill in Japan, with all necessary housings, dormitories, hospitals, schools, entertainment, dining room, etc., is only exceeded by the cost in the United States. Japan's overhead expenses are high, owing to freight, packing, insurance on imported machinery, and the very extensive welfare work. On the other hand, their management costs, due to the much lower salaries paid, cannot be nearly so great as in the United States at least. A mill spinning 20s to 30s built in the suburbs of Osaka costs about Yen 80 to 90 per spindle and about Yen 1,500 per automatic loom. For cheaper machinery the price would be 15 to 20 Yen less per spindle. The Yen 90 per spindle might be allocated as follows:

Cost of labor	Yen 5.50
Buildings	16
Offices and warehouses	3
Dormitories	15
Machines	50.50
Total	Yen 90

The cost of constructing the weaving mill depends so much on the price of the loom, whether it be Japanese made or foreign, whether plain or automatic, that it is not advisable to give estimates. A Stafford automatic loom costs Yen 900 in Osaka; Toyoda, Yen 500 to 550. British looms would probably be somewhere between the two. Their weaving machinery, Dr. Pearse finds, "is almost exclusively made in Japan; their Toyoda automatic loom is excellent, having 25 per cent more picks per minute than any American automatic loom."

Land values in the vicinity of the large cities are astonishing to one who has not realized Japan's recent industrial development. Around Osaka and Tokyo, even Kobe and Nagoya, people speak of the equivalent of an acre of land in terms of

millions of yen. The very nature of Japanese mill construction calls for a considerable acreage, hence the builders of new mills are seeking continuously for possible sites at comparatively low cost. In the suburbs of Osaka suitable sites cannot be had for less than 200 to 400 Yen per tsubo (36 sq. feet) or between $100,000 and $200,000 per acre. New mills, therefore, are being constructed in more distant villages where land can be obtained for around $2,500 per acre.

Weaving Statistics

I am indebted to Dr. Arno S. Pearse's report for the following table of Weaving Statistics for Members of the Japan Cotton Spinners' Association. The average production per loom at the time of his report was based on a 10–10½ hour day, but I was informed in Japan that a nearly if not quite equal production was obtained now in 8½ hours, due to the increased efficiency both of labor and machinery.

WEAVING STATISTICS OF MEMBERS OF THE JAPAN COTTON SPINNERS' ASSOCIATION

Half-Years	*Active Looms*	*Production in Yards*	*Average Production per Loom*	*Consumption*		*No. of Operatives*	
				Yarn	*Waste Yarn*	*Male*	*Female*
1928, 2nd	72,611	713,888,056	64.97	157,880,433	1,529,661	8,404	35,503
1928, 1st	68,601	668,146,357	64.73	145,127,792	1,421,186	8,115	35,390
1927, 2nd	65,658	634,571,105	59.56	143,608,424	1,489,755	8,317	39,030
1927, 1st	67,808	660,097,717	62.66	149,558,489	1,637,657	8,979	44,728
1926, 2nd	66,492	635,824,255	61.55	147,287,109	1,830,329	9,294	47,283
1926, 1st	64,905	641,902,699	60.73	147,047,436	1,918,295	9,138	49,071
1925, 2nd	63,350	597,241,605	59.24	141,368,875	2,113,573	8,882	47,615
1925, 1st	62,601	582,283,128	58.47	133,103,793	2,208,911	8,524	46,431
1924, 2nd	58,252	517,817,621	55.26	119,951,618	1,845,186	8,123	43,327
1924, 1st	54,449	513,034,037	54.88	121,367,477	1,798,891	8,234	42,785
1923, 2nd	52,626	497,342,927	53.23	120,001,910	1,747,012	8,045	40,306
1923, 1st	53,317	503,365,963	53.90	120,978,065	1,754,215	7,879	40,791
1922, 2nd	52,519	444,469,988	48.25	109,827,368	1,732,882	7,947	38,416
1922, 1st	49,846	424,857,664	49.24	104,500,137	1,723,809	7,766	37,788
1921, 2nd	43,771	357,985,199	47.34	99,819,931	1,468,066	6,681	31,766
1921, 1st	44,447	342,712,786	45.43	86,607,570	2,624,431	7,175	32,597
1920, 2nd	44,040	362,439,786	46.01	90,852,070	1,836,060	7,725	37,018
1920, 1st	45,230	399,597,574	49.01	98,799,250	2,100,995	8,284	40,078
1919, 2nd	45,483	380,477,883	48.96	93,434,923	1,934,890	8,741	39,838
1919, 1st	39,455	358,477,883	49.85	86,353,637	1,533,292	6,528	34,241
1918, 2nd	37,430	330,006,344	50.79	81,076,770	1,807,033	5,796	30,150
1918, 1st	35,359	326,929,076	53.14	79,224,799	1,115,112	5,268	29,276
1916, 2nd	29,962	283,551,160	59.14	69,140,516	996,563	3,710	23,756
1916, 1st	28,420	254,519,452	55.28	62,460,356	1,188,857	3,586	23,039
1913, 2nd	23,623	212,069,361	55.14	56,821,532	1,614,871	3,331	21,878
1913, 1st	25,975	204,655,996	55.28	54,338,034	1,519,204	3,264	22,043
1912, 2nd	20,635	177,253,849	54.58	49,285,803	1,367,478	2,873	18,333
1912, 1st	19,781	165,330,835	53.50	44,805,918	1,224,941	2,716	17,678

Average Production Figures

If one may attempt to make an average for spinning 20s, 11–11½ operatives per 1,000 spindles are employed throughout Japan; for spinning 40s, 8½–9 operatives. The highest production per spindle on ring frames for 20s is stated as ½ lb. per shift; but the average is around 10 per cent less. I was told in several mills that their spindle speed ran up to 11,000 or 12,000 for 30s/40s, and 9,000 for coarser counts.

It is difficult to get consistent figures with regard to Japanese loom production. Some mills report up to 55 and even 65 yards of 36″ sheetings per day, others 40 yards, etc. It is impossible to state whether the double shift or the single shift is meant by the term "day." The following taken from Japanese cotton statistics is probably a fairly accurate condensation of the average mill output.

Spinning	
Cotton used	20% American, 80% Asiatic
Type and size of frame	British, 192 spindles per side
Ring spindles per competent spinner	240 (about 1½ sides)
Speed of front roller per minute	⅞″, 175 r.p.m.
Percentage theoretical production	90%
Output per spindle, 8½ hour day	.429 lb.
Output per spinner, 8½ hour day	103.96 lb.
Weaving	
Width and length of cloth	36″ x 40 yds.
Construction	44 x 44
Yarns used (counts)	14s and 15s
Type of loom	Plain, English or Japanese
Number of looms per competent weaver	2 to 3 (considerably more in recent months)
Picks per minute	180
Percentage theoretical production	85%
Output of cloth per loom per 8½ hour day	58 yards
Output per weaver per 8½ hour day	145 yards (considerably greater in recent months)

Asia Remains Japan's Great Future Market

None recognizes better than the Japanese that their main cotton goods' market for the future will rest where it stands today in Asia. Roughly 40 per cent of their cotton goods exports have been going to China, another 40 per cent to India, the Dutch East Indies, the Philippines, and Siam. But in recent years they have developed an ever-growing though still small volume of cotton piece goods exports to South Africa and Australia; and still more recently to South America, the Near East (Persia, Arabia, the African littoral of the Red Sea), and even to some of the states of Eastern Europe. In virtually all of this territory they have successfully faced the competition of Lancashire, and in the European States a wage scale relatively little lower than their own; but the powerful cooperation of the buying and selling companies with the transportation and financing institutions has enabled them to gain ground in the face of all natural obstacles.

Japanese Mills Face Increasing Difficulties

However, the Japanese cotton industry at present sees itself facing several diffi-

cult factors. The high rate of the yen ($0.4985) and today's extremely low rate of the silver dollar ($0.365) in China undoubtedly means a falling off of Japan's cotton textile exports to China so long as this situation exists. Furthermore, Chinese mills, even the Japanese mills in China, are daily becoming stronger competitors of Japan, particularly in the China market, in coarse yarns and grey piece goods. The Chinese, however, are not yet at a point, either in the business of foreign merchandising or in production for foreign markets, where they are much of a factor in exports to other countries. It will be, probably, a long while before they become considerable exporters of cotton piece goods.

In India the import duty on cotton textiles has been raised from 11 to 15 per cent for all piece goods imports, and a 5 per cent preferential in favor of British piece goods makes the duty on Japanese and other foreign manufacturers' piece goods 20 per cent. Moreover, a minimum of 3½ annas, or about 8 cents gold, per pound has been provided against piece goods in the grey. These measures are bound to seriously reduce Japan's exports to India.

To meet the situation the Japan Cotton Spinners' Association has directed a 20 per cent reduction among all its members with a spindleage in excess of 20,000, and the probabilities are that reduction will become still greater as the year advances. A number of the mill combines have also announced a reduction in their dividends for the first six months of the present year. Mr. F. Abe, the chairman of the Japan Cotton Spinners' Association, told me that as the mills were shutting down their nearest obsolete spindles and their least productive looms the actual reduction in production at the present time would probably amount to no more than an effective 10 to 12 per cent. This reduction does not mean a discharge of present working employees. Spinners and weavers are constantly going in and out of the mills upon the termination of their contract of two and one-half to three years. The process of reducing production does not involve termination of any of these contracts, but merely that new operatives will not be employed to take the place of a certain proportion of the old ones.

That the Japanese cotton textile industry finds itself in strong competition with its own mills in China as well as with the Chinese owned mills is due to the fact that the mills in China are making the coarser counts, mostly up to 20s, and the weaves from such low counts, and are beginning to export them at a price lower than the Japanese can make them. Some cotton men in Japan think that the Japanese would like to sell out their mills in China to the British or Americans; some think they are preparing to get out of China now. Others think they will continue the business there, but induce the Japanese Government to reduce the import duty on low count yarns; and they will thus gradually import all their low count yarns from their own mills in China, leaving Japan's mills free to make higher counts.

But the fact is, that whatever disturbing factors are immediately apparent, the tendency among the Japanese companies is to continue building new mills. Despite the serious setbacks confronting them this year, they remain firm in the faith that they have got hold of a good thing and that with their unity, organization, skilled manufacturing methods and new machinery they are bound to continue with their success.

Bleaching and Dyeing Works

I was unable to obtain admission to any of the bleaching and dyeing works in Japan, and the information herewith given is condensed from Dr. Pearse's report:*

Bleaching in Japan costs more than in China and therefore it is preferable to export goods in the grey, as men's wages in China are about half of those in Japan.

There are several large dyeing concerns, the Imbata Dyeworks (Imbata Senkoyo), the Osaka and the Ichii Senkojo and the Yamatogawa Dyeworks, all in the Osaka district. There are several large works near Tokyo.

The following concerns have bleaching, dyeing and printing:—

Kanegafuchi's Yodogawa Works
Nihon Seifu, near Kyoto
Nihon Katazome, Hamamatsu
Nitto Nassen, Osaka
Wakayama Nassen, near Osaka (for cotton flannels)

Calico printing has made, during the last ten years, progress, but even this branch of the industry can only be considered to be in its infancy. Printing works of a large scale are scarce as yet. Probably the printing of calico has a future as the Japanese designers bring out some very artistic designs, which appeal to the Oriental taste. Calico printing works are on short time just now, owing to the Chinese boycott.

Modern Establishments on Factory Lines—The Yodogawa works possess a complete installation of bleaching, dyeing and printing both for cotton and silk; they were started in 1918 by the Kanegafuchi Mill and are in every respect up-to-date. It is regarded as the model plant. Labour-saving appliances, particularly easy means of transport from department to department, are everywhere in evidence. In the Printing section, the designing department and the transfer of designs by machinery on the rollers are quite modern. A collection of fine reproductions of Japanese, Chinese, and European art forms the basis for the composition of new designs.

There are employed 1,000 men and 300 women, in only one shift of 9 hours (viz., 7 A.M. to 5 P.M., with one hour rest at noon). Up to early in 1927 they had 3 foreigners in their employment; now the whole of the works are managed by Japanese.

The approximate monthly output capacity of the works is said to be:—

Bleaching	70,000	pieces of	40 yards
Dyeing	110,000	" "	30 yards
Printing	60,000	" "	30 yards

There are five English printing machines, one American, one French and one Japanese; the latter is for sampling purposes and was made by the Wakayama Iron Works, at Wakayama.

40 per cent of the grey goods that are being finished were woven by the Kanegafuchi Mill, and the remainder by other factories, for which they print on commission.

For the Japanese market the works turn out Shirtings, Sateens and Jeans, and for China printed Voiles, Italian Crepes and Venetians. The better kinds of qualities do not find a ready sale abroad, as there they meet the foreign competition, whilst the tariff protects the Japanese goods in the home market.

The average daily wage of the skilled and trained men in the various departments is Yen

(*) I would most heartily recommend to cotton mill men in the United States, who are interested in the discussion by an expert of technical details, the perusal of Dr. Pearse's extremely lucid and interesting report upon Japan and China's cotton industry, published by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, England. Dr. Pearse expects to publish a similar report on the Indian cotton mill industry during the present summer.

5.10 for nine hours; for the ordinary male labourer Yen 1.36 and for females Yen 1.10, with a minimum wage of Yen 1.05 and 0.85, respectively. Average age of men 24, of women 19. The relation of skilled to unskilled is two to one amongst the men and one to two amongst the women.

A Java importer told the writer that they were in the habit of sending patterns which they had selected from new European collections to Japan with the request to forward quotations for the same designs, but sometimes on inferior cloth. As the deliveries in Java take only three months from Japan, whilst from England, probably due to the short-time movement, delivery in Java could not be effected before five or six months, Japan receives many orders, principally of jeans, which otherwise would have gone to Europe. The nearness of Japan to many Eastern markets facilitates business very much. My informant said that the Japanese send the quotations with code words promptly within two weeks.

The total number of calico-printing machines in Japan has been estimated to be 215, of which only 50 are engaged on goods for export. The Chinese boycott has affected this branch of the industry more than any other.

Establishments for bleaching and dyeing are more numerous. The most important are the Inabata Dyeworks (Inabata Senkojo), the Ichii Dyeworks and the Yamatogawa Dyeworks; these are at or near Osaka, but a large number is near Tokyo. All these work with one shift of 10 hours each, and are credited with an output of 40,000 pieces of 40 yards per month; a large portion of the machinery has been made in Japan.

The dyes employed are to a very large extent of German origin; the national dyes are still very inferior, except sulphur black.

The quotations given by these works include the cost of packing.

Cost of Bleaching, Dyeing and Printing

The writer obtained the following prices from two large cotton goods exporters:

No. 1:—

Bleaching Shirtings, 36″, 40 yds., 12 lbs., about 20s x 24s, Yen 1.20 per piece—2s. 2d. (at 1s. 10d. per yen).
Dyeing Shirtings, as above, any colour, Yen 0.90—1s. 7.8d.
Bleaching Jeans, 30 ins., 30 yds., about 10 lbs., 23s x 25s or 27s, Yen 0.82—almost 1s. 7d.
Dyeing Jeans, as above, Yen 0.85—1s. 6d.
Printing Jeans, five different colours, stripes, on white cloth, direct print, Yen 0.95 per piece —almost 1s. 9d.
Printing Jeans, six to seven different colours, flower designs, Yen 0.15 per yard—0.33d.
Five-shaft Sateens, 28 ins., 30 yards, 2/40s or 22s x 40s:
Bleaching, Yen 1.40 per piece—2s. 6.8d.
Dyeing, Yen 0.048 per yard—1.056d. per yard.
T-cloth, 30 ins., or 36 ins., x 24 yds., 6 to 7 lbs., 20s x 20s, Dyeing, Yen 0.75—1s. 4½d.

No. 2:—

Bleaching:—

Shirting, 34/36 ins. x 41/42 yds., according to finish, Yen 1.35 (2s. 5¾d.) to Yen 1.50 (2s. 9d.); finishing for home use, Yen 0.65 (1s. 2.3d.) to Yen 0.80 (1s. 5.6d.).
Drill, Jeans, 28 ins. x 40 yds., Yen 1.35 (2s. 5¾d.)

Dyeing:—

Shirting, 34/36 ins. x 41 yds. sulphate black, uncalendered, Yen 0.80 (1s. 5.6d.); calendered, Yen 1.00 (1s. 10d.); 28 ins. x 30 yds., royal scarlet, etc., schreinered, Yen 0.80 (1s. 5.6d.); slate, black, schreinered, Yen 0.70 (1s. 3.4d.).

Drill, Jeans, 28 ins. x 40 yds., sulphate black, uncalendered, Yen 0.90 (1s. 7.8d.).
Jeans, 28 ins. x 30 yds., royal scarlet, schreinered, Yen 1.15 (2s. 1.3d.); slate, black, schreinered, Yen 0.85 (1s. 6.7d.).
T-cloth, 28 ins. x 25 yds., turkey red, Yen 0.60 (1s. 1.2d.).
Sateen Drill, 28 ins. x 30 yds., anilin, black, mercerised, Yen 1.50; mercerised, schreinered, Yen 1.95 (3s. 10.9d.).

Printing:—

Shirting, 28 ins. x 30 yds., white ground, four colours, Yen 1.35; coloured ground and for ground patterns, four colours, Yen 1.50 (2s. 9d.).
Sateen Drill, 28 ins. x 30 yds., coloured ground, discharge and for registered mercerised, 4/5 colours, Yen 3.60 (6s. 5¼d.).
Jeans, 28 ins. x 30 yds., white ground, stripes, Yen 0.80 (1s. 5.6d.); ground patterns, duplex, Yen 2.20 (4s. 0.4d.).
Minimum quantity 10 cases (of 60 pcs. per pkg. cotton prints) (of 30 pcs. per pkg. others).

The Dutch Consular Report states the following quotations:—

BLEACHING

Kind of Goods	*Description*		*Measurements after Bleaching*	*Cost Yen per Piece*
Drills	30″ x 40 yds.	12 lbs.	40 yds. x 28″	1.25
Jeans	30″ x 30 yds.	8 lbs.	30 yds. x 28″	1.00
Shirtings	30″ x 120 yds.	15 lbs.	120 yds. x 28″	3.50
Shirtings	30″ x 38 yds.	8 lbs.	40 yds. x 36″	1.35
Shirtings	44″ x 46 yds.	9½ lbs.	47 yds. x 42″	1.75
"Saifu"	36″ x 40 yds.	12 lbs.	40 yds. x 34″	1.25

DYEING

Kind of Goods	*Measurements after Dyeing*	*Colour*	*Cost*
Shirtings, 30″	30 yds. x 28″	Slate	Yen 2.50 per 120 yds.
Drills	40 yds. x 28″	Khaki or black	Yen 1.45 per 40 yds.
Jeans	30 yds. x 28″	Slate or brown	Yen 0.90 per 30 yds.
Sateens	30 yds. x 28″	"	Yen 0.0575 per yd.
T-cloth	25 yds. x 28″	"	Yen 0.70 per 25 yds.

PRINTING

30 in. Shirting	*1 Colour Yen*	*2 Colours Yen*	*3 Colours Yen*
Light foundation, per 120 yds.	5.20	5.50	5.70
Dark foundation, per 120 yds.	7.50	...	...
Jeans, per yd.	0.06	0.08	0.10
Sateens, per yd.	0.12	0.14	0.15

Osaka is said to possess over Nagoya the advantage of having soft water in abundance, so that this district is likely to see a further development of the finishing industries.

Osaka Mainichi, February 1, 1930

JAPANESE COTTON MILLS, etc.

Production Efficiency is now Higher but Wages are Lower

The actual effect of the abolition of the night work by all the cotton spinning mills in Japan since July 1, this year, is rather serious, being practically against the expectation of the Government, because these mills have witnessed an increase in their production efficiency through the sacrifices made by the operatives, whose wages have been somewhat reduced.

This has been revealed as a result of the investigation into the operating conditions for the past five months, and has attracted the keen attention of the Government authorities. The cotton mill operatives have been working between 5 A.M. and 11 P.M. in two shifts since July 1, in accordance with the revised Factory Law.

The net working hours per day are now 17 hours in two shifts, instead of the former 20 hours, the reduction being 15 per cent. In order to cover the reduction in the total working hours for a month by 15%, some large mills have reduced their holidays from 4 to 2 days, which is the minimum, according to the Factory Law, while the small mills adopted the three holiday system. Thus the large mills have been able to check the reduction in the total working hours for a month by 6.6%. The net reduction, therefore, will be about 11.7%.

Machines Increased

These mills, on the other hand, have increased their spindles and weaving machines and have also done their utmost to raise the production efficiency of operatives. For this purpose, the reduction in the number of operatives has been effected, expecting larger production from the reduced number of hands.

The particulars of the hands employed per 10,000 spindles during the past five months are shown in the following table, compared with those for the corresponding period of last year:

Month	*1929*	*1928*
July	269	320
August	261	317
September	263	308
October	265	304
November	265	304
Average	264	311

Thus the average number of hands for this year is smaller than last year by 47 persons, or 14 per cent. Particulars of the hands employed per 1,000 weaving machines for the same period are shown in the following table:

Month	*1929*	*1928*
July	627	611
August	615	615
September	605	626
October	600	623
November	595	628
Average	609	621

Thus for hands for the weaving machines, the average number for this year decreased by 12 persons.

More Hands for Weaving

Particulars of yarn production efficiency per ring day are as follows:

Month	*1929*	*1928*	*Decrease*
	(Unit Momme: 3/8 grammes)		
July	67.5	83.2	15.7
August	74.8	86.2	11.4
September	79.2	86.1	6.9
October	81.7	89.5	7.8
November	83.2	90.7	7.5
Average	79.1	87.2	8.1

The average for this year is smaller by about 9½%. Compared with the reduction in the number of the working days and the working hands, 2.9% in all, the decrease in the yarn production per ring is less by 20%. This means that the mills were able to raise their production efficiency by 20%. Particulars of the production efficiency per weaving machine per day are shown in the following table:

Month	*1929*	*1928*	*Decrease*
	(Unit Yard)		
July	61.45	63.37	1.92
August	59.29	63.01	3.73
September	63.02	62.93	0.09
October	65.61	64.85	0.76
November	67.00	65.24	1.76
Average	63.26	63.88	0.62

Thus the daily production per machine has been increasing and the average for this year is smaller than last year by only 0.62 or about 1%.

The hands for weaving have been increased by some 2% and the net reduction, therefore, will be about 3%. Compared with the reduction in the monthly working days, 15%, the mills have raised their production efficiency by 12%.

Index for Wages

The mills have thus had favorable results of operation for both spinning and weaving during the past five months, but the index of the operatives' wages has been falling as follows:

Month	*1929*	*1928*	*Reduction*
July	93.9	100.9	7.0
August	93.2	100.3	7.1
September	93.8	100.1	6.3

These index figures have been obtained as a result of the investigations by the Bank of Japan. The index for this year is lower than last year by between 6.3 and 7%. The reduction of wages and the increase of production efficiency means that the mills have been making a profit at the expense of the operatives.

APPENDICES TO JAPAN SECTION

		Page
Appendix I	—Cotton Mills in Japan—Capital, Reserves, Number and Equipment	48
Appendix II	—Japan Cotton Mills—Capital, Spindles and Looms	50
Appendix III	—Japan Cotton Yarn Production and Operatives	51
Appendix IV	—Japan Importation of Raw Cotton	52
Appendix V	—Japan Cotton Consumption	54
Appendix VI	—Japan Exportation of Cotton Yarn	56
Appendix VII	—Japan Exportation of Cotton Piece Goods	58
Appendix VIII	—Monthly Returns of the Mill Owners of the Japan Cotton Spinners' Association	60

Note—In the following tables as in all statements used in connection with this report, Japanese terms of weight, or measurement, or money are of American equivalent as follows:

1 momme	equals	0.132⅓ oz.
1 kin	"	1.322 lbs.
1 picul	"	132⅓ lbs.
1 tsubo	"	36 sq. ft.
1 yen	"	$0.4985 (in general terms—$0.50)

Name of Company	Capital in Yen		Reserves in Yen	No. of Mills	Spindles			Looms
	Authorized	Paid-up			Ring	Mules	Doubling	
Dai Nippon Boseki Kabushiki K.	52,000,000	52,000,000	38,900,000	23	699,008	3,680	193,988	9,624
Toyo Boseki Kabushiki Kaisha	51,850,000	36,850,000	46,791,764	30	729,960	...	109,596	12,600
Osaka Godo Boseki Kab. K.	18,750,000	18,750,000	16,800,000	12	387,104	...	63,976	3,248
Fukushima Boseki Kab. K.	8,000,000	5,600,000	12,362,735	9	234,012	...	16,000	1,590
Tenma Orimono K. K.	7,000,000	6,250,000	2,154,556	2	65,792	...	...	1,164
Tenma Boshoku K. K.	2,750,000	2,750,000	344,672	1	15,912	...	...	756
Yamamoto Bosekisho	200,000	200,000	...	1	3,884	...	...	...
Osaka Meriyasu Boshoku K. K.	5,000,000	2,720,000	2,090,300	3	91,124	...	2,620	828
Naigai Wata K. K.	16,000,000	13,250,000	16,393,206	2	33,172	...	...	811
Ozuburin Kigyo K. K.	5,000,000	2,000,000	5,787	1	20,496	...	9,626	59
Owada Boshoku K. K.	2,000,000	1,000,000	235,720	2	21,292	...	...	738
Kinka Boseki K. K.	7,000,000	7,000,000	793,906	4	125,292	...	13,168	1,213
Osaka Orimono K. K.	3,000,000	3,000,000	47,400	1	40,344	...	5,900	967
Kabushiki Kaisha Hokusen Bosekisho	1,000,000	1,000,000	27,886	2	11,604	...	...	295
Isumi Boseki K. K.	6,000,000	4,500,000	1,600,000	2	66,752	...	9,600	614
Izumi Orimono K. K.	1,500,000	1,187,500	352,500	4	13,024	...	...	1,296
Kishiwada Boseki K. K.	9,750,000	6,186,000	11,229,196	8	203,892	...	...	1,100
Senshu Orimono K. K.	2,500,000	1,900,000	733,100	3	22,400	...	...	1,442
K. K. Terada Boseki Kosho	1,000,000	1,000,000	344,926	1	13,792	...	...	...
Kaizuka Boshoku K. K.	1,300,000	1,188,640	510,000	6	10,408	...	...	1,278
Sano Boseki K. K.	5,000,000	3,750,000	190,000	1	20,624	...	572	308
Yoshimi Boshoku K. K.	5,000,000	4,250,000	870,000	2	31,024	...	1,520	1,024
Osaka Boseki K. K.	3,000,000	3,000,000	...	1	40,428	...	...	168
Wakayama Boshoku K. K.	5,200,000	5,200,000	2,935,333	8	126,472	...	6,600	1,463
Marsuda Menpu K. K.	2,000,000	2,000,000	218,532	2	11,960	...	...	696
Kiyo Shokufu K. K.	4,875,000	4,875,000	19,790	2	65,332	...	900	553
Utsumi Boshoku K. K.	2,500,000	2,500,000	20,000	3	68,704	...	...	595
Hidaka Boshoku K. K.	1,000,000	800,000	15,013	1	11,328	...	...	...
Hinode Boshoku K. K.	10,500,000	5,250,000	1,768,000	4	88,864	...	...	...
Tsuji Boseki K. K.	3,000,000	3,000,000	70,000	3	38,388	...	816	324
Seshoku K. K.	1,000,000	787,500	394,449	1	4,880	...	1,080	232
Kurashiki Boseki K. K.	17,200,000	12,350,000	6,250,000	12	277,052	...	19,788	1,812
K. K. Handa Menko	700,000	700,000	550,933	1	13,392	...	...	...
Fukuyama Nenshi Boseki K. K.	1,000,000	475,000	102,680	2	3,700	...	1,882	...
Yamazumi Bosekisho	500,000	500,000	...	1	5,192	...	...	...
Ube Boseki K. K.	1,500,000	1,169,480	38,516	1	22,752	...	...	...
Izume Seishoku K. K.	6,000,000	6,000,000	65,000	2	68,448	...	5,692	960

COTTON MILLS IN JAPAN (*Continued*)

Name of Company	*Capital in Yen*		*Reserves in Yen*	*No. of Mills*	*Spindles*			*Looms*
	Authorized	*Paid-up*			*Ring*	*Mules*	*Doubling*	
Mitoyo Boseki K. K.	3,000,000	2,250,000	70,000	1	31,488	...	...	...
Meiji Boseki Goshi K.	3,000,000	2,000,000	2,517,845	3	51,032	...	19,880	339
Nagasaki Boshoku K. K.	5,380,000	5,380,000	2,640,000	2	109,856	..	...	460
Omi Hanpu K. K.	7,100,000	4,875,000	2,139,191	6	57,808	...	11,942	1,077
Hirata Seimo K. K.	1,000,000	1,000,000	266,668	1	13,440	...	3,238	...
K. K. Hatori Shoten	10,000,000	5,200,000	1,270,000	5	64,136	...	...	2,594
K. K. Kondo Bosekisho	3,000,000	3,000,000	845,000	1	42,976	...	...	1,035
Toyoda Boshoku K. K.	8,000,000	7,100,000	2,442,000	2	57,424	...	...	1,432
Kikui Boshoku K. K.	4,000,000	4,000,000	546,000	1	62,428	...	...	1,491
Nagoya Boseki K. K.	5,750,000	5,573,750	70,000	3	85,584	...	2,020	315
Aichi Orimono K. K.	4,000,000	3,250,000	1,625,500	2	47,192	...	...	854
Naigai Boseki K. K.	2,500,000	1,500,000	6,000	1	16,052	...	...	...
Kawagoe Boseki K. K.	1,000,000	1,000,000	2,000	1	21,412	...	...	...
Sagami Boseki K. K.	3,000,000	2,035,000	31,075	1	63,280	...	12,352	...
Kanegafuchi Boshiki K. K.	60,000,000	28,595,737	48,105,747	27	562,272	...	93,876	8,045
Fuji Gasu Boseki K. K.	45,500,000	34,000,000	9,538,822	6	475,744	26,360	92,368	2,550
Nisshin Boseki K. K.	27,000,000	16,125,000	4,779,612	8	383,604	5,280	76,338	2,946
Toyo Mosurin K. K.	11,785,000	11,470,000	380,000	4	110,840	1,674	...	2,889
Tokyo Mosurin Boshoku K. K.	30,512,500	20,317,410	218,466	2	79,128	...	12,400	1,238
Asahi Boshoku K. K.	6,000,000	2,640,000	23,700	1	32,296	...	...	850
Totals of Associated Mills	514,602,500	387,376,017	243,188,526	243	6,076,812	36,994	787,738	76,071
Yamamoto Kenmen Boseki K. K.	1,000,000	1,000,000	40,000	1	...	4,680	...	...
Kashiwara Boshoku K. K.	18,000,000	18,000,000	67,000	1	14,080	...	...	624
Kita Gomei Kaisha Inagawa Senshokusho	5,000,000	5,000,000	...	1	5,450	...	...	352
Toyama Boseki K. K.	2,300,000	1,700,000	...	1	40,208	...	...	663
Teikoku Yoriito Orimono K. K.	3,500,000	2,500,000	442,000	6	8,096	...	...	287
Toyoda Boshoku Oshikiri Koba	500,000	500,000	189,000	1	14,164	...	...	360
Sanko Boseki K. K.	3,000,000	1,800,000	2,820	1	20,608	...	...	244
Ashikaga Boseki K. K.	10,000,000	3,500,000	28,500	1	29,928	...	4,400	310
Chosen Boshoku K. K.	5,000,000	5,000,000	29,781	1	15,600	...	...	610
Tatsuta Boshoku Koba	...	...	...	1	5,616	...	...	256
Totals of Non-Associated Mills	48,300,000	39,000,000	799,101	15	153,700	4,680	4,400	3,706
Totals of the Whole Country July 1, 1928	562,902,500	426,376,017	243,987,627	258	6,230,512	41,674	792,138	79,777
Totals of the Whole Country Jan. 1, 1929	552,196,250	419,792,127	249,978,831	259	6,425,500	41,674	809,452	81,209

APPENDIX II

JAPAN COTTON MILLS, CAPITAL, SPINDLES AND LOOMS

Years	No. Mill Companies	Mills	Capital		Reserve Funds	Number of Spindles			Doubling Spindles	Looms
			Authorized	Paid-up		Ring	Mule	Total		
			Yen	Yen	Yen					
1907	42	118	90,036,300	57,531,125	20,966,234	1,492,032	48,420	1,540,452	154,789	9,462
1908	36	125	85,511,300	58,397,385	22,189,614	1,743,921	51,958	1,795,879	177,860	11,146
1909	31	134	75,871,800	68,501,000	22,784,470	1,903,854	51,038	1,954,892	227,574	13,813
1910	36	136	94,271,300	67,516,013	24,658,967	2,044,284	55,480	2,099,764	282,186	17,702
1911	34	139	89,160,150	64,374,164	24,788,872	2,117,756	53,040	2,170,796	286,410	20,431
1912	41	147	105,136,400	72,366,495	28,538,314	2,125,000	52,748	2,176,748	317,324	21,898
1913	44	152	113,036,401	86,444,059	33,803,119	2,365,094	49,405	2,414,499	320,912	24,224
1914	42	157	109,676,400	85,820,424	36,639,349	2,606,004	51,170	2,657,174	348,766	25,443
1915	41	161	110,176,400	86,011,677	38,663,064	2,754,124	53,390	2,807,514	355,318	30,068
1916	40	161	137,290,150	99,641,818	48,952,381	2,825,944	49,960	2,875,904	370,681	31,295
1917	43	170	162,830,150	115,623,020	70,037,275	3,008,568	51,910	3,060,478	383,458	36,181
1918	43	177	192,877,650	138,494,565	92,426,047	3,175,768	51,910	3,227,678	384,872	40,391
1919	54	190	221,927,650	165,758,695	139,073,869	3,435,932	52,330	3,488,262	410,690	44,401
1920	56	198	394,327,650	276,535,896	165,697,053	3,761,250	52,330	3,813,580	466,460	50,588
1921	61	217	429,577,650	295,648,358	182,040,774	4,116,616	44,510	4,161,126	538,384	54,994
1922	64	235	462,107,650	317,148,075	202,774,376	4,472,112	45,500	4,517,612	602,032	60,765
1923	60	228	463,977,650	323,787,485	211,298,943	4,183,596	14,370	4,197,966	501,031	61,421
1924	56	232	512,362,500	349,820,568	212,871,930	4,845,082	25,150	4,870,232	676,995	64,225
1925	54	230	509,212,500	351,804,817	221,777,742	5,151,962	33,670	5,185,632	715,946	68,160
1926	53	233	497,087,500	360,195,247	229,326,484	5,376,092	34,660	5,410,752	785,002	71,719
1927	54	233	468,305,000	351,809,272	237,575,011	5,731,264	35,320	5,766,584	770,690	71,794
1928	59	245	502,346,250	379,517,127	248,809,876	6,249,648	36,994	6,286,642	795,688	76,727
1929 (June)	59	245	507,346,250	387,323,852	256,529,161	6,310,312	36,994	6,347,306	793,336	74,388

Figures supplied by Japan Cotton Spinners' Association

Appendix III — JAPAN COTTON YARN PRODUCTION AND OPERATIVES

Years	Average Working Spindles	Production of Cotton Yarn						Daily Operatives in Average		
		Coarse Yarn	Medium Yarn	Fine Yarn	Doubling	Gassed	Total	Male	Female	Total
		Bale	Bale	Bale	Bale	Bale	Bale			
1907	1,458,020	859,214.5	53,762.0	....	47,377.5	23,127.5	983,481.5	15,242	64,377	79,619
1908	1,367,631	738,659.0	54,171.0	....	59,555.5	26,185.0	878,570.5	15,049	59,154	74,203
1909	1,569,080	841,778.0	78,975.0	7.0	71,651.0	32,833.5	1,025,244.5	16,844	66,664	83,508
1910	1,741,168	964,675.0	63,637.5	1,814.5	74,436.5	30,217.0	1,134,780.5	18,266	75,614	93,880
1911	1,784,064	934,713.0	82,739.5	4,627.5	74,536.0	32,651.0	1,129,267.0	17,628	74,868	92,496
1912	1,984,191	1,090,172.5	119,893.5	6,722.5	95,683.5	39,737.5	1,352,209.5	18,421	80,779	99,200
1913	2,167,926	1,212,001.5	142,409.0	8,666.5	109,996.0	44,909.0	1,517,982.0	19,707	88,038	107,745
1914	2,369,801	1,350,850.5	149,498.0	7,760.5	119,790.0	38,282.0	1,666,181.0	22,163	92,251	114,414
1915	2,463,376	1,360,259.0	187,761.0	8,096.5	130,536.5	33,611.5	1,720,264.5	22,674	92,500	115,174
1916	2,757,299	1,458,617.0	259,840.0	10,153.5	155,483.5	41,485.0	1,925,579.0	23,845	97,279	121,124
1917	2,850,637	1,421,978.0	287,259.5	7,730.5	164,850.0	42,023.5	1,923,841.5	25,518	97,648	123,166
1918	2,936,495	1,245,723.5	366,868.5	7,427.5	138,286.5	45,560.0	1,803,366.0	26,790	95,069	121,859
1919	3,179,568	1,285,926.0	422,967.5	9,202.0	156,542.5	46,144.5	1,920,782.5	30,935	101,399	132,334
1920	3,191,753	1,222,525.5	401,868.5	7,477.5	146,562.5	38,542.0	1,816,976.0	33,966	109,782	143,748
1921	3,162,353	1,276,600.5	346,148.5	6,199.5	141,136.0	41,265.5	1,811,350.0	34,904	105,704	140,608
1922	3,967,265	1,557,052.0	429,484.5	7,167.5	185,761.5	48,780.5	2,228,246.0	41,009	132,442	173,451
1923	4,079,855	1,484,705.5	449,274.5	10,175.0	177,472.5	49,525.5	2,171,153.0	38,159	121,811	159,970
1924	4,115,692	1,320,986.5	499,037.5	13,497.5	184,539.0	54,757.0	2,072,817.5	36,015	117,307	153,322
1925	4,669,753	1,541,615.5	587,005.0	16,145.5	229,079.5	62,938.0	2,436,783.5	39,221	134,383	173,604
1926	5,002,932	1,629,698.5	637,499.5	16,164.0	248,847.0	75,537.5	2,607,746.5	40,735	141,787	182,522
1927	4,831,429	1,570,910.0	643,325.5	20,618.0	224,903.5	70,935.5	2,530,692.5	38,762	131,384	170,146
1928	4,843,590	1,414,339.5	737,088.5	20,954.0	210,739.5	68,740.5	2,451,862.0	36,355	117,697	154,052
1929 (June)	5,711,509	....	....	....	....	....	2,760,503.0	34,933	125,038	159,971

Figures supplied by Japan Cotton Spinners' Association

APPENDIX IV

JAPAN IMPORTATION

Years	*British India*		*United States of America*		*China*	
	Quantities	*Value*	*Quantities*	*Value*	*Quantities*	*Value*
	Picul	Yen	Picul	Yen	Picul	Yen
1907	2,185,363	57,574,244	873,684	28,723,469	885,205	23,465,284
1908	1,511,141	39,649,890	799,840	26,462,639	659,319	16,330,634
1909	2,317,721	61,076,162	715,041	23,318,450	612,052	16,121,082
1910	3,097,496	101,218,305	444,703	17,193,128	1,139,201	34,133,021
1911	2,422,009	88,069,790	736,776	29,258,958	741,824	22,514,498
1912	3,199,224	108,673,239	1,872,237	64,601,154	657,644	18,888,760
1913	4,004,458	143,039,172	1,720,082	64,220,345	575,248	16,505,049
1914	4,142,667	145,447,591	1,369,625	53,966,465	416,901	11,750,479
1915	4,896,782	139,704,522	1,614,661	55,653,723	591,932	15,337,020
1916	5,133,005	165,188,550	2,206,231	79,370,081	659,758	19,677,841
1917	4,495,140	204,311,120	1,704,972	84,085,431	643,467	30,596,309
1918	2,903,201	210,084,179	2,509,530	205,108,129	1,231,001	88,785,644
1919	3,574,731	237,930,140	3,113,911	286,112,443	993,636	76,729,961
1920	4,194,838	357,581,901	3,273,461	339,164,317	203,477	12,722,213
1921	4,406,717	181,707,094	3,486,143	217,435,939	560,484	24,130,127
1922	4,944,437	209,897,193	2,898,834	175,808,772	633,428	28,521,188
1923	5,145,306	263,027,162	2,524,723	177,550,743	759,344	39,221,014
1924	4,538,988	310,943,962	2,370,481	204,918,054	1,007,605	71,151,415
1925	6,154,475	475,632,852	3,799,504	360,166,976	690,449	49,975,206
1926	5,865,282	327,520,644	4,522,373	317,427,534	869,275	45,133,795
1927	4,992,005	202,281,948	6,359,658	343,563,337	1,048,126	49,259,053
1928	4,603,928	232,266,921	3,871,600	245,926,093	1,041,547	49,598,519
1929	5,136,468	231,108,280	4,485,146	276,357,931	778,637	33,628,818

Regarding importation from Korea, accurate figures cannot be available from September, 1920.
Figures supplied by Japan Cotton Spinners' Association.

OF RAW COTTON

Egypt or Africa		*Korea*		*Other Countries*		*Total*	
Quantities	*Value*	*Quantities*	*Value*	*Quantities*	*Value*	*Quantities*	*Value*
Picul	Yen	Picul	Yen	Picul	Yen	Picul	Yen
Egypt 62,932	3,396,978	8,398	105,206	220,759	2,379,418	4,236,341	115,641,599
97,384	5,004,459	15,470	247,993	260,841	2,590,674	3,343,995	90,256,289
102,813	5,432,654	27,430	342,126	210,365	2,017,314	3,985,422	108,307,788
74,217	4,143,388	37,296	468,982	160,286	2,064,984	4,953,199	159,221,803
100,443	5,437,500	15,526	320,105	131,892	1,501,866	4,148,470	147,102,717
115,951	5,935,823	23,037	423,795	231,674	2,725,228	6,099,767	201,247,999
124,489	6,236,224	33,774	863,599	277,904	3,598,397	6,735,955	234,462,786
115,527	5,724,457	45,986	1,521,658	156,071	2,085,548	6,246,777	220,496,198
108,370	5,802,030	38,573	1,186,096	80,296	818,768	7,330,614	218,502,159
145,449	8,257,272	52,826	1,482,724	218,896	3,594,930	8,416,165	277,571,398
120,842	10,848,008	77,686	3,703,210	83,181	1,135,213	7,125,288	334,679,291
82,945	8,865,126	93,901	7,072,868	98,977	2,715,911	6,919,555	522,631,857
122,217	13,403,784	86,983	6,695,333	114,903	3,690,323	8,006,381	674,561,984
Africa 69,901	7,612,197	67,775	5,927,975	97,280	4,356,822	7,906,732	727,365,425
149,736	11,745,862	...	...	154,736	3,153,794	8,757,816	438,172,816
107,575	8,464,530	...	...	126,295	2,149,208	8,710,569	427,840,891
183,103	19,541,257	...	...	233,725	13,832,282	8,846,201	513,172,458
142,086	16,425,852	...	...	64,516	1,835,451	8,123,676	605,274,734
111,825	15,085,477	...	...	185,795	22,494,850	10,942,048	923,355,361
333,786	34,471,077	...	...	54,976	1,377,156	11,645,692	725,930,206
337,017	28,108,191	...	...	63,049	1,418,131	12,799,855	624,630,660
Egypt 175,724	17,722,045	...	...	72,374	4,428,108	9,765,173	549,941,686
230,837	21,899,220	...	...	158,483	10,022,101	10,789,571	573,016,350

APPENDIX V JAPAN

Years	*Indian*		*American*		*Chinese*		*Egyptian*	
	Lbs.	*Bales of 300 kin*	*Lbs.*	*Bales of 375 kin*	*Lbs.*	*Bales of 400 kin*	*Lbs.*	*Bales of 550 kin*
1907	265,737,875	664,345	111,216,408	222,438	67,476,692	126,524	7,008,467	9,557
1908	230,701,058	576,753	95,674,700	191,349	76,140,575	142,764	9,406,175	12,826
1909	306,535,475	766,339	105,293,050	210,586	53,332,225	99,998	13,087,891	17,843
1910	372,808,800	933,092	69,456,508	140,156	76,219,308	146,910	11,374,717	15,509
1911	297,793,250	744,496	111,540,908	223,082	110,200,125	206,625	13,506,525	18,418
1912	368,062,933	920,155	214,251,250	428,537	31,654,633	59,350	15,085,558	20,573
1913	434,685,666	1,086,713	202,441,016	404,881	46,621,309	87,414	16,699,942	22,773
1914	549,868,658	1,374,672	170,397,933	340,797	36,528,292	68,491	15,161,483	20,675
1915	559,320,525	1,398,301	209,035,492	418,073	18,389,108	34,482	13,436,266	13,321
1916	593,978,108	1,484,945	235,615,875	471,233	29,506,075	55,324	16,421,546	22,393
1917	590,521,080	1,476,303	242,144,925	484,290	42,305,308	79,323	14,717,091	20,060
1918	453,072,641	1,132,681	280,374,975	560,750	83,091,375	155,796	14,769,342	20,148
1919	376,643,558	941,621	355,489,221	711,178	130,970,193	245,569	15,588,908	21,258
1920	482,881,416	1,207,203	310,370,393	620,740	30,684,616	57,533	11,558,208	15,763
1921	521,998,441	1,305,005	304,763,617	609,597	3,037,340	5,695	14,600,500	19,910
1922	615,242,183	1,491,844	389,759,225	780,344	3,626,017	7,274	19,652,842	27,039
1923	652,798,508	1,663,509	296,423,592	592,515	25,886,858	48,444	22,140,542	30,191
1924	563,969,233	1,407,838	282,197,025	564,390	58,883,450	110,418	36,176,192	60,710
1925	640,310,683	1,600,776	380,046,508	760,092	47,239,383	88,573	34,706,692	47,336
1926	664,655,716	1,661,639	486,464,350	972,929	19,956,425	37,418	43,557,383	59,050
1927	551,571,275	1,378,924	562,091,700	1,124,195	15,841,558	29,704	39,414,575	63,151
1928	514,950,408	1,287,376	515,779,575	1,031,559	61,415,000	115,152	37,194,791	50,724
1929								

Korean cotton before 1916 is totalled under the column of "Sundries."
Figures supplied by Japan Cotton Spinners' Association.

TTON CONSUMPTION

Annam & Saigon		*Korean*		*Sundries*		*Total*	
Lbs.	*Bales of 300 kin*	*Lbs.*	*Bales of 200 kin*	*Lbs.*	*Bales of 300 kin*	*Lbs.*	*Bales*
,027,208	12,568	...	...	3,645,008	9,118	460,114,658	1,044,545
,154,158	17,885	...	...	4,166,275	10,415	423,242,941	951,992
,366,292	15,916	...	...	4,787,692	11,969	489,402,625	1,122,655
,823,683	11,829	...	...	5,909,009	13,522	543,592,025	1,261,018
,837,833	4,595	...	...	4,321,184	10,636	539,204,825	1,207,852
,735,384	9,307	...	...	3,441,058	8,593	636,231,816	1,446,515
,547,250	18,869	...	...	4,143,508	10,358	712,138,691	1,631,007
,742,225	11,857	...	...	7,158,842	17,897	783,857,433	1,834,388
,641,033	6,604	...	...	4,998,742	12,497	807,821,216	1,888,280
,069,166	22,673	6,744,540	25,289	4,251,590	10,629	895,586,900	2,092,486
,715,905	9,290	8,194,558	30,730	4,344,308	10,861	905,943,675	2,110,866
,187,334	7,968	11,790,775	44,215	6,941,733	17,354	853,228,175	1,938,904
,265,292	5,663	11,454,470	42,954	5,037,182	12,593	897,553,824	1,980,836
,041,258	5,104	9,412,820	35,298	5,367,604	13,419	852,316,315	1,955,058
,923,158	9,808	8,744,408	32,792	3,479,358	8,699	860,546,824	1,991,506
,563,967	12,873	8,354,600	30,196	5,680,941	14,163	1,047,879,775	2,363,730
,519,492	6,295	12,054,233	45,182	7,929,408	19,808	1,019,702,633	2,405,944
,461,775	3,656	20,443,692	76,665	5,877,333	14,694	969,013,700	2,238,376
,722,917	6,808	19,070,975	71,515	9,781,567	24,454	1,133,878,725	2,599,548
,011,383	2,529	12,512,942	47,549	8,763,400	21,908	1,236,921,599	2,803,027
,958,633	7,400	9,768,591	36,630	7,474,050	18,689	1,189,120,382	2,658,694
,676,616	4,191	11,141,225	41,779	7,125,975	17,814	1,149,283,590	2,548,591 (Jan.–June)

APPENDIX VI JAPAN EXPORTATION

Years	*China*		*Hong Kong*		*British India*	
	Quantities	*Value*	*Quantities*	*Value*	*Quantities*	*Value*
	Picul	Yen	Picul	Yen	Picul	Yen
1907	572,605	25,423,430	23,488	1,084,251	1,189	55,073
1908	402,801	16,360,708	19,533	955,190	123	4,511
1909	708,306	28,898,310	10,166	509,364	45	2,603
1910	904,605	40,224,249	53,858	2,648,659	2,102	207,819
1911	702,973	35,422,564	38,754	2,148,590	5,426	585,083
1912	912,598	45,757,948	87,272	4,547,936	9,966	327,561
1913	1,167,892	60,095,834	102,093	5,746,697	9,774	987,364
1914	1,365,371	64,558,930	198,373	9,167,521	9,431	971,202
1915	1,391,762	55,503,214	195,723	7,964,419	4,694	405,237
1916	1,320,474	63,842,489	151,144	7,642,095	35,233	3,239,314
1917	1,069,727	85,801,331	175,216	13,413,890	27,938	4,132,636
1918	695,066	86,365,503	187,794	23,473,101	238,280	34,998,715
1919	468,783	84,119,074	106,915	18,527,063	14,259	2,980,475
1920	500,132	81,060,949	175,046	28,937,190	142,846	30,252,515
1921	523,751	47,114,017	168,634	15,410,379	111,492	11,991,334
1922	638,585	62,185,072	250,181	23,478,306	204,959	20,666,783
1923	364,703	38,503,001	120,325	11,534,733	176,812	20,511,884
1924	289,609	40,883,714	184,479	22,250,027	242,521	35,954,637
1925	398,334	52,072,261	176,363	20,753,491	261,515	38,716,812
1926	217,921	25,705,515	87,859	8,092,163	216,850	28,086,168
1927	86,286	9,205,020	38,662	3,646,912	163,524	20,040,131
1928	67,880	8,109,979	47,765	4,194,625	51,780	9,181,071
1929	52,911	6,650,543	20,965	2,120,217	82,542	13,448,318

Regarding exportation to Korea, accurate figures cannot be available from September, 1920.
Figures supplied by Japan Cotton Spinners' Association.

OF COTTON YARN

Philippine Islands		*Korea*		*Other Countries*		*Total*	
Quantities	*Value*	*Quantities*	*Value*	*Quantities*	*Value*	*Quantities*	*Value*
Picul	Yen	Picul	Yen	Picul	Yen	Picul	Yen
6,645	356,445	75,219	3,413,464	280	14,056	679,426	30,346,719
7,935	379,319	65,421	2,696,323	7,718	327,853	503,531	20,723,904
4,571	212,082	44,176	1,674,937	9,370	359,474	776,634	31,656,770
10,509	560,928	59,476	2,520,098	12,355	534,758	1,042,905	46,696,511
9,228	614,727	68,483	3,024,536	30,163	1,442,325	855,027	43,237,825
10,876	700,660	63,103	2,953,956	47,983	2,346,641	1,124,798	56,634,702
9,887	670,793	45,710	2,092,139	70,860	3,496,850	1,406,216	73,089,677
14,372	920,719	57,061	2,296,646	65,362	2,936,128	1,079,970	80,851,146
10,889	650,945	80,064	2,793,442	44,545	1,687,192	1,727,677	69,004,449
5,666	452,884	78,410	3,314,641	50,517	2,415,072	1,641,444	80,906,495
9,780	989,778	82,792	5,642,720	47,106	3,801,617	1,412,559	113,781,972
17,054	2,336,321	39,159	4,489,740	87,185	11,126,379	1,264,538	162,789,759
2,078	374,536	48,142	7,404,845	50,834	8,230,934	691,011	121,636,927
7,645	1,586,127	16,604	2,587,874	72,502	10,557,150	914,775	154,981,805
4,253	449,360	...	...	69,653	5,602,912	876,783	80,568,002
8,686	910,275	...	...	79,774	7,482,819	1,182,186	114,723,255
6,802	771,632	...	...	76,332	7,290,711	744,974	78,511,961
5,398	669,935	...	...	89,075	9,852,939	811,082	109,610,952
9,528	1,175,134	...	...	86,668	10,399,267	932,408	123,116,965
9,603	1,027,206	...	...	84,420	7,805,283	616,653	70,716,335
5,765	672,549	...	...	58,731	5,228,796	352,968	38,794,408
3,651	470,152	...	...	43,592	3,939,078	214,968	25,894,905
5,478	687,361	...	...	40,309	3,849,263	202,205	26,755,702

APPENDIX VII JAPAN EXPORTATIO

Years	*China*	*Kwantung Province*	*Hong Kong*	*British India*	*The Straits Settlements*	*Dutch India*	*Asiatic Russia*	*Philippine Islands*	*Siam*
	Yen	Yen	Yen	Yen	Yen	Yen	Yen	Yen	Yen
1907	4,718,474	2,730,557	1,083,494	45,397	159,002	...	333,033	416,075	..
1908	4,534,201	2,109,976	424,415	43,314	160,202	...	675,849	665,353	.
1909	6,727,632	3,583,566	522,476	54,452	215,378	...	433,268	905,641	..
1910	10,078,043	4,979,575	865,755	81,371	254,769	...	112,903	769,997	..
1911	10,128,091	6,756,739	561,549	111,832	243,699	204,539	183,685	775,910	8,30
1912	12,717,303	9,169,254	873,183	732,478	249,296	192,544	156,242	558,370	102,63
1913	18,964,913	9,109,327	1,142,558	1,031,906	274,580	232,543	880,716	545,800	112,67
1914	26,188,612	3,330,978	1,032,038	1,727,442	212,183	183,430	754,272	308,133	60,56
1915	27,331,680	3,177,660	913,303	3,703,475	338,309	428,975	905,341	247,966	67,97
1916	34,783,962	4,024,727	1,453,592	10,560,119	757,424	2,245,502	524,970	277,316	179,58
1917	84,804,372	8,988,294	2,647,565	15,121,454	1,359,324	5,701,034	1,959,338	1,066,497	382,34
1918	88,047,516	20,832,109	3,621,428	55,435,718	3,900,657	17,693,598	17,528,400	1,547,777	1,544,78
1919	143,283,813	44,207,583	3,208,145	29,507,929	2,742,145	24,415,754	18,878,498	505,729	334,46
1920	130,515,786	26,592,938	9,347,383	67,289,100	6,949,057	60,465,523	702,788	6,551,838	1,362,11
1921	100,987,683	15,536,666	12,306,505	30,465,794	3,841,641	25,571,947	415,341	3,779,039	609,64
1922	108,757,681	18,494,039	10,212,743	33,567,336	5,892,104	24,938,051	1,094,905	3,452,640	1,362,54
1923	100,292,315	14,617,573	11,625,461	36,546,103	6,048,085	22,534,624	685,830	5,398,857	1,432,44
1924	137,920,952	15,704,994	19,369,363	46,916,136	4,901,487	37,194,858	654,414	6,895,489	1,564,05
1925	194,012,727	19,501,940	20,576,739	70,394,242	14,559,553	49,373,265	368,912	10,921,725	2,929,25
1926	180,076,749	16,042,409	24,722,517	70,346,941	12,352,821	44,520,238	730,898	9,580,177	3,310,91
1927	123,492,448	13,119,063	29,583,088	86,126,986	10,041,883	49,247,087	537,267	11,342,431	4,088,36
1928	158,497,596	15,073,570	17,464,427	70,185,408	3,519,946	39,275,360	...	6,797,356	1,359,46
1929	150,115,950	15,358,164	20,785,407	109,138,997	5,797,842	42,283,380	...	5,629,222	3,815,20

Regarding exportation to Korea, accurate figures cannot be available from September, 1920.
The table excludes Cotton towels, Cotton handkerchiefs, Blankets and Blanketings of cotton, Turkish and Honeycomb c
Figures supplied by Japan Cotton Spinners' Association.

OF COTTON PIECE GOODS

Great Britain	*United States*	*Argentine*	*African Countries*	*New Zealand*	*Australia*	*Hawaii*	*Korea*	*Other Countries*	*Total*
Yen	Yen	Yen	Yen	Yen	Yen	Yen	Yen	Yen	Yen
30,969	93,467	...	...	...	32,195	101,847	6,385,942	213,645	16,344,097
29,719	52,795	...	...	...	66,556	92,656	5,523,017	233,318	14,611,374
36,739	93,068	...	...	...	139,486	129,468	4,509,092	322,720	17,672,986
100,258	100,748	...	...	...	117,220	164,037	2,528,166	309,693	20,462,535
75,164	144,781	...	...	...	171,461	175,317	9,005,184	138,463	28,684,721
58,931	216,253	...	...	...	380,108	193,028	11,192,098	161,767	36,953,493
105,142	316,680	...	...	...	531,358	152,055	9,409,939	205,435	43,015,623
74,904	233,719	...	...	...	495,213	101,314	8,562,649	137,956	43,403,410
193,301	311,865	...	...	...	531,808	180,826	9,982,959	178,937	48,494,382
761,992	1,428,262	...	...	...	1,872,833	221,622	13,122,816	958,742	73,173,460
61,133	1,655,078	...	...	...	1,746,809	264,692	20,650,101	1,700,320	148,103,352
463,461	942,332	...	...	...	10,294,441	182,018	30,727,345	15,878,879	268,640,465
204,938	1,954,911	...	...	...	3,745,466	390,341	70,884,271	6,931,343	351,195,333
86,182	2,207,401	...	...	...	10,837,039	545,159	17,207,269	11,513,720	352,173,295
57,004	3,615,463	...	...	...	2,857,550	418,405	...	3,210,671	203,673,379
48,870	4,125,972	...	...	...	6,290,925	321,637	...	3,492,672	222,052,119
5,791	2,503,531	...	...	...	6,064,102	419,285	...	26,053,480	234,227,485
9,799	4,118,243	2,162,672	27,925,465	677,993	7,745,995	237,330	...	12,588,241	326,587,484
...	1,892,676	2,664,636	21,940,561	683,056	8,296,814	220,069	...	14,514,249	432,850,421
...	599,794	2,558,543	24,665,606	542,770	6,947,568	222,161	...	19,034,564	416,254,675
...	429,402	4,737,788	33,234,840	487,366	4,818,338	251,683	...	12,298,598	383,836,636
...	248,899	2,174,880	19,824,629	275,429	2,391,818	215,390	...	14,913,363	352,217,536
...	124,692	4,163,866	27,540,553	162,474	2,927,236	148,124	...	24,715,613	412,706,729

ıckaback, Undershirts and Drawers of Cotton knit and Cotton crapes, Cotton bags, Cotton threads.

APPENDIX VIII MONTHLY RETURNS OF THE MILL OWNERS OF THE JAPAN

Name of Mills	*Working Spindles*			*Yarn*	
	Ring	*Mule*	*Total*	*Ring*	*Mule*
	No.	No.	No.	Lbs.	Lbs.
Dainihon	698,368	3,680	702,048	10,711,791	11,084
Toyo	772,711		772,711	14,070,538	
Osaka Godo	411,350		411,350	7,748,565	
Fukushima	250,442		250,442	5,082,411	
Tenma Orimono	94,427		94,427	2,043,259	
Tenma Boshoku	11,531		11,531	420,566	
Yamamoto					
Osaka Meriyasu	88,853		88,853	1,216,458	
Naigai Men	31,497		31,497	444,974	
Ozu Burin	19,620		19,620	131,829	
Owada	23,752		23,752	175,244	
Osaka Orimono	46,080		46,080	488,066	
Kinkwa	175,620		175,620	2,653,045	
Hokusen	10,305		10,305	340,196	
Izumi Boseki	64,167		64,167	1,499,726	
Izumi Orimono	12,838		12,838	299,614	
Kishiwada	165,542		165,542	3,204,880	
Senshu Orimono	19,630		19,630	682,276	
Terada	12,128		12,128	550,529	
Kaizuka	10,170		10,170	226,770	
Sano	20,395		20,395	390,020	
Yoshimi	40,264		40,264	624,290	
Osaka	29,616		29,616	798,923	
Wakayama Boshoku	121,439		121,439	2,642,076	
Wakayama Senko	8,640		8,640	392,531	
Matsuta Menpu	12,448		12,448	439,621	
Kiyo Shokufu	52,189		52,189	951,965	
Utsumi	77,535		77,535	2,005,395	
Hinode	103,396		103,396	2,714,896	
Hitaka	11,263		11,263	287,720	
Tsuji	36,322		36,322	652,771	
Seishoku	4,382		4,382	174,632	
Kurashiki	275,403		275,403	4,275,433	
Handa Menko	24,191		24,191	484,548	
Fukuyama Nenshi	3,361		3,361	71,911	
Yamazumi					
Ube	53,056		53,056	652,630	
Iaumo Seishoku	73,241		73,241	927,061	
Mitoyo	31,296		31,296	741,392	
Meiji	49,399		49,399	408,167	
Carried forward	3,946,827	3,680	3,950,547	71,626,746	11,084

COTTON SPINNERS' ASSOCIATION, December, 1929

Produced			*Cotton Consumed*	*Cotton Fly*	*Waste Yarn*	*Number of Hands*	
Total	*Average per Day per Spindle*					*Male*	*Female*
	Ring	*Mule*					
Lbs.	Oz.	Oz.	Lbs.	Lbs.	Lbs.	No.	No.
10,722,875	8.46	1.69	12,461,605	1,523,020	45,231	3,587	15,761
14,070,538	10.35		16,136,281	2,052,411	76,694	4,312	13,428
7,748,565	10.47		8,847,079	1,160,447	43,488	2,977	10,330
5,082,411	11.19		5,798,916	690,436	37,368	1,347	5,261
2,043,259	11.93		2,364,144	228,347	7,541	541	1,849
420,566	20.12		497,004	54,350	123	104	276
1,216,458	9.62		1,411,377	188,179	6,591	315	1,494
444,974	8.07		508,130	60,826	2,312	128	490
131,829	4.12		131,705	13,876	2,601	117	467
175,244	4.29		203,270	16,115		103	235
488,066	6.18		595,438	52,640	1,272	132	574
2,653,045	8.54		3,049,699	339,395	16,429	630	3,060
340,196	18.86		421,103	43,026	2,106	130	411
1,499,726	13.12		1,826,674	280,237	16,553	515	1,605
299,614	12.96		354,643	59,265	1,115	73	333
3,204,880	10.86		3,675,700	477,428	55,094	1,295	3,915
682,276	21.37		749,173	92,512	2,643	141	370
550,529	25.51		607,299	66,798	4,237	237	628
226,770	6.21		258,207	44,447	1,371	70	207
390,020	5.55		475,445	80,658	2,849	94	407
624,290	10.10		752,808	106,430	495	283	718
798,923	15.41		965,693	130,970	6,054	255	884
2,642,076	12.42		2,822,557	223,680	30,950	914	3,220
392,531	13.02		471,769	51,517	1,445	142	368
439,621	16.78		511,921	70,358	239	62	301
951,965	10.15		1,057,288	149,382	7,202	255	1,577
2,005,395	14.33		2,746,805	442,083	16,511	553	1,961
2,714,896	15.00		3,255,976	426,001	18,436	693	3,169
287,720	14.09		370,444	43,530	3,940	117	482
652,771	10.27		756,756	80,518	4,567	286	872
174,632	11.81		210,621	33,998	1,990	62	234
4,275,433	8.87		5,025,483	660,370	32,841	1,222	4,854
484,548	11.23		614,750	77,478	3,469	213	579
71,911	8.59		90,240	16,065	1,362	31	151
652,630	6.61		712,425	62,709	4,534	258	1,073
927,061	7.24		1,049,854	115,474	5,286	322	1,345
741,392	13.07		892,080	136,248	6,360	301	723
408,167	4.79		463,361	46,669	3,791	195	922
71,637,832			83,143,748	10,397,921	475,117	23,012	84,534

APPENDIX VIII (*Concluded*) MONTHLY RETURNS OF THE MILL OWNERS OF THE JAPAN

Name of Mills	*Working Spindles*			*Yarn*	
	Ring	*Mule*	*Total*	*Ring*	*Mule*
	No.	No.	No.	Lbs.	Lbs.
Brought forward	3,946,827	3,680	3,950,547	71,626,746	11,084
Nagasaki	97,856		97,856	1,820,685	
Fukui	30,316		30,316	602,699	
Ohmi Hanpu	54,631		54,631	1,366,501	
Hirata Seimo	12,530		12,530	245,735	
Hattori Shoten	63,240		63,240	833,458	
Kondo	46,936		46,936	538,452	
Toyoda	79,044		79,044	741,301	
Kikui	62,455		62,455	788,714	
Nagoya	83,941		83,941	1,511,811	
Aichi Orimono	61,936		61,936	948,950	
Naigai Boseki	23,120		23,120	516,002	
Kawagoe	21,041		21,041	236,409	
Sagami	62,090		62,090	761,249	
Kanegafuchi	617,004		617,004	8,287,357	
Fuji Gasu	453,651	24,469	478,120	5,049,395	327,765
Nisshin	391,749	3,800	395,549	4,388,009	222,417
Toyo Mosurin	104,939	1,214	106,153	1,080,408	35,286
Toyo Mosurin Boshoku	78,230		78,230	1,063,731	
Asahi	34,880		34,880	528,772	
Total (57)	6,326,456	33,163	6,359,619	102,936,384	596,553
November, 1929 (57)	6,221,968	33,120	6,255,088	103,086,831	599,676
December, 1928 (56)	5,092,231	21,690	5,113,921	92,050,835	477,675

COTTON SPINNERS' ASSOCIATION, December, 1929

Produced			*Cotton Consumed*	*Cotton Fly*	*Waste Yarn*	*Number of Hands*	
Total	*Average per Day per Spindle*					*Male*	*Female*
	Ring	*Mule*					
Lbs.	Oz.	Oz.	Lbs.	Lbs.	Lbs.	No.	No.
71,637,832			83,143,748	10,397,921	475,117	23,012	84,534
1,820,685	10.93		1,969,671	230,280	9,994	593	2,254
602,699	11.17		706,048	92,594	2,205	131	662
1,366,501	14.39		1,543,521	202,865	15,941	525	1,727
245,735	11.21		282,615	42,373	1,445	91	249
833,458	7.27		946,505	78,354	4,394	181	966
538,452	6.43		640,505	93,585	8,466	147	782
741,301	5.35		852,019	75,909	660	360	800
788,714	7.09		886,033	95,155	1,734	220	656
1,511,811	9.94		1,773,611	252,532	13,265	545	1,908
948,950	8.46		1,056,784	122,165	7,962	167	999
516,002	12.75		601,509	87,787	3,328	116	628
236,409	6.42		255,002	24,449	702	104	366
761,249	7.00		841,446	64,940	3,840	346	1,064
8,287,357	7.13		10,367,167	966,494	31,594	2,981	13,311
5,377,160	6.47	7.66	6,156,334	737,642	24,904	3,377	9,068
4,610,426	6.37	33.44	4,882,692	488,545	18,956	1,702	6,103
1,115,694	5.88	16.55	1,229,715	93,081	5,938	510	2,143
1,063,731	7.76		1,238,810	153,090	8,689	419	2,251
528,772	8.35		613,255	60,711	4,047	185	540
103,532,938	10.39	14.87	119,986,990	14,360,472	643,181	35,712	131,011
103,686,507	10.99	15.03	119,648,858	14,553,310	653,209	35,525	130,779
92,528,511	12.21	28.43	106,550,621	12,665,314	553,535	36,549	118,575

The American Consulate General at Shanghai.—*Typical of the buildings along the Bund, or Shanghai waterfront, of a few years ago, it suggests comparison with the new type of buildings on the Bund as represented by the home of the Hong Kong & Shanghai Banking Corporation in following picture.*

Hong Kong & Shanghai Corporation, Shanghai Bund

CHINA

The situation of the cotton industry in China is widely different from that in Japan. They have a Chinese Cotton Mill Owners' Association, the main functions of which are to collect and supply information on piece goods and raw cotton movements to its members. But there is no such close organization of the industry as in Japan. There is no real community of interests, and the very evident development of the cotton textile industry is wholly dependent upon the initiative and foresight of the individual mill owners. Naturally one of the reasons for this is that China's cotton industry is in the hands of three separate nationalities. Of the 3,650,000 spindles and 30,000 looms comprising the industry, the Chinese own about 2,100,000 spindles and 14,000 looms; the Japanese group owns about 1,400,000 spindles, 14,000 looms; while British interests, which consist of but three mills in the ownership of one firm, own the remaining 50,000 spindles and 2,000 looms.

Mills Provide Yarn for Hand Looms

It is evident, then, that the modern cotton industry of China still mainly consists of the spinning industry. In addition to its production of cloth for the domestic market, it must chiefly depend for its prosperity upon its sale of yarn to the literally millions of hand looms which remain the mainstay, as they have been for ages, of China's cotton textile industry. In other words, while the number of China's modern cotton mills has greatly increased since the World War, they are really but a drop in the bucket compared with the cotton industry which still remains in the household of China's farmers and artisans.

Modern cotton mills in China are mainly scattered throughout the Treaty Ports and the principal cities of Eastern China, from Wusih to Mukden. But 75 per cent of the entire cotton textile industry is centered about Shanghai, and as conditions here do not differ greatly from those in the lesser centers, it was the only region I visited.

I confess that I made no very comprehensive study of the cotton textile industry in China after I realized that no extensive or intensive investigation would be likely to discover any appreciable market for American cotton goods manufacturers. The Chinese are able to take care of a great part of the demand themselves. Their industry will grow and in time they will practically control the market, especially in the coarser counts. Those lines of grey piece goods that they are not able to manufacture themselves, they will undoubtedly import in larger quantities from Japan, because that country is capable of producing what their market demands and at a lower cost than any other. British imports of grey piece goods in China now are less than one-fourth what they were in 1913, and are decreasing yearly. The Japanese, of course, have taken a large share of that trade, but the Chinese mills themselves are developing both the skill in labor and the organizing ability to produce finer counts, and it is only a question of time until they will crowd their competitors of today out of their market in most of the finer counts also.

Cotton textile manufacture in China has been an important industry for thousands of years, but in a modern sense it began in 1895 with the signing of the Treaty of Shimonoseki, at the conclusion of the Sino-Japanese War, which gave to foreigners

the right to import machinery and engage in manufacturing in the Treaty Ports. As in the case of Japan, the World War gave a tremendous impetus to the Chinese textile industry, so that since 1915 the number of mills and spindles has more than quadrupled, while the number of looms has increased sevenfold. The large profits earned by the established cotton mills in China during the World War attracted to the industry a great aggregation of Chinese capital and inexperienced management. To a considerable extent the Chinese-owned mills are still suffering from an heritage of errors initiated at that time.

Influence of Japanese Mills

Japanese-owned mills in China are organized and operated, so far as equipment are concerned, precisely as in Japan. They are simply Chinese branches of the big Japanese mill combines, who invested some of their enormous war profits in mills in China to supply coarse cloths to that enormous market. Owing to a far less disciplined and skilled labor force and to the use of a much greater amount of the short staple and Chinese cottons, with a consequently greatly diminished use of American and Indian staple, they produce inferior types of piece goods to those manufactured in Japan, but of an entirely sufficient quality to satisfy the market. Another feature not nearly so evident as in Japan is that of welfare work, dormitories, etc., for the mill operatives. However, the Japanese-owned mills are gradually extending this work in China with the aim of giving their female labor especially—largely recruited from nearby villages—an incentive to developing their skill, and thus increasing their remuneration by their own efforts.

One cannot go into the Chinese-owned mills without realizing the influence of the Japanese. In a general sense they appear to be organized on the same lines, but to be lacking in exactitude of arrangement and management, as well as in cleanliness and general efficiency. There is not nearly so much care taken of machinery as in the Japanese mills, and the greater number of employees per machine is very evident.

It is obvious that those Chinese-owned mills which have endeavored to pattern themselves after the Japanese are ahead of those Chinese-owned mills which have developed through their own initiative, but the best management in Chinese mills probably requires 25 per cent or more hands than the Japanese mills for the same output, and some mills will run as much as 60 per cent or more. One of the reasons is that few weaving sheds in China are equipped with automatic looms, although some of the Japanese-owned mills are putting them in. As a matter of fact, Chinese labor has not yet developed to the point where it can be depended upon to exercise the skill, steadiness, and judgment required to properly look after the automatic loom.

Disadvantages of British Mills

The British mills are in a separate category. Managed exclusively by Manchester-trained men, except for their Chinese mill operatives, they might be a little bit of Lancashire set down on the far shores of Cathay. As might be expected, the Japanese-owned mills, following the patterns in their own country, are much the best managed and equipped in China, with the best handled labor. The British rank next. The Japanese claim their main advantage over the Chinese mills lies in their superior management and in their superior facilities for selling their cloth through the same

A Chinese Cotton Mill *which has recently been erected in Shanghai. It contains 45,000 spindles.*

Junks on China's Great River, the Yangtze, Load Wheat and Cotton at the Interior Ports of the Yangtze Valley to Take Down to Shanghai

three large Japanese raw cotton import houses that operate in Japan. Their advantage over the British-owned mills lies in their ability to get in closer contact with and maintain direct supervision of their labor—the British having to do everything through Chinese foremen and go-betweens of one sort and another. The Chinese claim that they are handicapped by their lack of trading organizations such as are possessed by the Japanese, and the higher rates of interest, as much as up to 12 per cent for money obtained from the banks.

Exports Mostly From British and Japanese Mills

While a certain amount of cotton piece goods is exported from China to India and other Asiatic countries, most of it is from the British and Japanese-owned mills. The Chinese-owned mills have so far worked exclusively for their domestic market, so they have not familiarized themselves with the demands of foreign markets, nor have they any mercantile organization to distribute their output in foreign countries. It is even probable that with an inferior cloth they would not be able to undersell either the Japanese or even the British abroad, especially when the difficulties confronting them in attempting to introduce new and inferior prints are considered. Moreover, there is no need for the Chinese mills to undertake export trade, for it will be a great many years before they will be developed to the extent where they can manufacture sufficient output to fulfill the annual cotton goods requirements of their own 450,000,000 people at home. As a matter of fact, with a cessation of civil wars and restoration of anything like peaceful conditions, it will not be surprising to see China's production of raw cotton and growth of modern cotton mills develop faster than that of any elsewhere in the world. China's cotton men are not unaware of the great market which lies all about them and of their capacity to grow their own cotton, as Japan cannot. For the present they are content to see foreign piece goods pay not much more than a nominal tariff of 12½ per cent and up (according to kinds) to supplement their production, but in future cotton textile manufacture of other nations will have to face higher tariff walls.

The Chinese, while still inexperienced in management and unskilled as to technique, are nevertheless improving both quality and yarn yearly. Three years ago 16s were the average count; now 20s and 21s are nearer the average, and a good many mills have no difficulty in spinning up to 42s. Chinese cloth, while more carelessly woven than that of Japan, is of ample quality for the market, and I was informed that the weaving shows improvement yearly. Comparing adverse political conditions, the modern cotton mill industry in China seems surely destined to perhaps a greater expansion than that of any other country.

Chinese-Owned Mills

I could get no figures on the profits of either Japanese or Chinese-owned mills, but the profits of the latter at least must be enormous in normal times. In the markets all around them, demand exceeds supply, and but two factors limit the price and methods of distribution. Due to the necessity for importing all machinery, and the high price of land in the foreign settlements, especially of Shanghai, the cost of erecting cotton mills in China is very high; but there is probably no country in which the costs of output are so low. Chinese-owned mills pay their labor, male and female,

an average of 50 cents silver, or about 16 cents gold at present rates of exchange, per day. They load their cloth with sizing and clay up to an effective 20–30 per cent, and sell it at just enough under British and Japanese prices to hold their market. They have a continuous stream of little girls, "apprentices," running through their mills, working at the machines without any pay except a few coppers per day "rice money," learning the arts of spinning and weaving. They work their hands 22 hours per day, in two shifts; and while their labor is not yet to be regarded as comparable with that of any other cotton textile-producing country except India, the average daily output of cloth per loom, per shift, compares favorably enough with that of American and Japanese mills. The Chinese mills claim that they run their machinery, i.e., looms and spindles, faster than any other country. Moreover, while the older Chinese woman, with her bound feet, is slow of movement and tires easily, the girls growing up in the industry, with feet unbound, are quick-brained as well as nimble, and they are rapidly developing into good millhands. In the Japanese-owned mills under Japanese training, they are markedly better than in the Chinese-owned mills.

The Chinese-owned mills work as a rule in two shifts of 12 hours each, that is to say, the effective working time is but 11 hours each, as at least one hour per shift is allowed for "time off." In these mills cleaning of the machinery, which is a daily necessity owing to the indolent or negligent habits of the workmen, takes place within the time of the employer; while in the Japanese-owned mills cleaning of machinery takes place after hours, or during the leisure time of the factory hand. It must not be understood that the 11-hour shift in a cotton mill of China is even approximate to an 11-hour shift in an American mill. In the latter everyone is on his toes, striving to make every minute count to the utmost in the total of his piece work remuneration. In every cotton mill in China, whether Japanese, British, or Chinese-owned, the millhand, male or female, whether on piece work or on daily wages, suggests by his conduct that he is satisfied with what remuneration the day's activities may bring to him, without regard to any increase which might accrue as the result of his increased expression of energy. In simple words, the Chinese millhand is not interested in gaining a greater reward for a greater expenditure of energy.

There is no real beneficent system for millhands such as pertain generally to the industry in Japan. Rests of fifteen minutes each are allowed three times a day, during which time the millhands may go where they like. During these periods one may see millhands sitting at their machines quietly eating rice, or, in other words, having their meals. Ordinarily the machinery does not stop during this rest period, and some of the hands take their meals while others wash the machinery, to be relieved presently by those who have had their food.

Ineffectiveness of Factory Laws

A factory law has been enacted by the Ministry of Commerce and Labor which is nominally in effect. It provides that no child labor shall be employed under the age of fourteen years, and that boys and girls between fourteen and sixteen may be employed to perform only light work. In case of dismissal, a month's wages must be paid. These regulations are honored more in the breach than in their observation. An eight-hour day has been tentatively provided, but exceptions are made in the case of grown persons. Women are not to work between 10 P.M. and 6 A.M.; minors may

Mongol Sheep Herder Comes to Town

Bullock Carts Haul Across the Mongolian Plain the Rolls of Chinese Felt Used by the Mongolians to Make Their "Yurtas" or Tents

China's Cottage Industries.—*A weaver of Pongee Silk.*

not work between 7 P.M. and 6 A.M., and an 18-hours' rest is provided at the end of every seven days. Minimum wages have been suggested but have not been introduced into any form of law. All these and many other provisions are Utopian in their conception and almost impossible of realization. A great deal has been written about the amelioration of labor conditions in China for the millhands, but from the Western standpoint at least most of it is largely bunk. It must be admitted, however, that, as far as local conditions permit, the Japanese-owned mills have made a real endeavor to improve the living conditions of their labor force as compared with the living conditions of Chinese labor in other industries.

MILL STUDIES

Mill No. 1

Of the Chinese-owned mills that I went through, the first belonged to a large combine which might be described as a "family affair," so many of the mill managers and assistant managers bear the same family name as the head of the combine. These mills manufactured, among other lines, the famous Man & Bell brand of standard 16s sheetings. Their spinning and weaving sheds were two or more miles apart and they were expanding both; the yards in each case being littered with crates of new machinery—Saco-Lowell and Hetherington in about equal quantities—exposed to the elements, which in Shanghai, winter and summer, are mean. This mill housed 45,000 spindles, 900 looms, and a labor horde of over 3,000. The mill sheds were dirty, badly lighted and full of lint collected on machinery and windows. One could not mistake that here was negligent management. The whole plant was literally overrun with small girls, between 12 and 14 years, some seemingly at work, some obviously at play. I saw as many as six to eight girls on a spinning frame and could not tell which were regular employees and which were "apprentices" to avoid the law which has abolished labor employment of girls under 14. Child labor is still prevalent in the cotton industry, in spite of the new law which it is nearly impossible to enforce. With youngsters as small as seven years of age or so running all over the mill, some evidently trying to learn mill processes, it is impossible to tell which were being employed and which were being provided with amusement. In any case, so great is the poverty among the working classes of China's vast population, that the necessity for the children working is so imperative that no laws to the contrary are ever likely to be of real force.

The Chinese manager of this mill said they average one girl to 176 spindles and 1–2 hands per loom. He claimed 16 card machines per man employee, but I estimated an average of about 3 out of every 12 cards idle or out of order. Spinning coarse counts, mainly 11s up to 17s, they seemed to have an extraordinary number of cards for so small a plant, between 70 and 80. In both spinning and weaving sheds the older women had babies, sometimes on their backs, sometimes clinging to their skirts, and youngsters of only a few years helping them work!

A feature of this mill was a new German machine for loading the yarn with an equal distribution of water up to 9 per cent, the first machinery of its kind in China. It cost, they said, but $4.87 gold per day to treat the total daily output of the spinning department, i.e., 90 bales of yarn of 420 pounds each, to this bath. For the operation of their 45,000 spindles and 900 looms they employed 1,800 hands, 1,400 of whom were girls and women. Divided into shifts this would mean 900 hands per shift, of whom 700 were female. The remainder of the force of 3,000 are men.

The girls averaged 55 cents silver per day, or 11½-hour shift, which is around 20 cents gold; but their most experienced weavers could earn up to $1.00 silver, or around 35 cents, per day. Their average male employee earned less, about 75 cents silver per day, but foremen were given daily wages of $1.70 silver, say 60 cents gold, at the time of my visit; at present exchange it would be considerably less, or 85 cents at normal exchange. They claim to spin up to 32s out

of Chinese cotton; 32s and over, 40% American, 60% Chinese; 42s and over, all American. On 23s to 32s they claim a speed of 11,000 revolutions per minute, which I thought high, but in another mill they claimed 12,000.

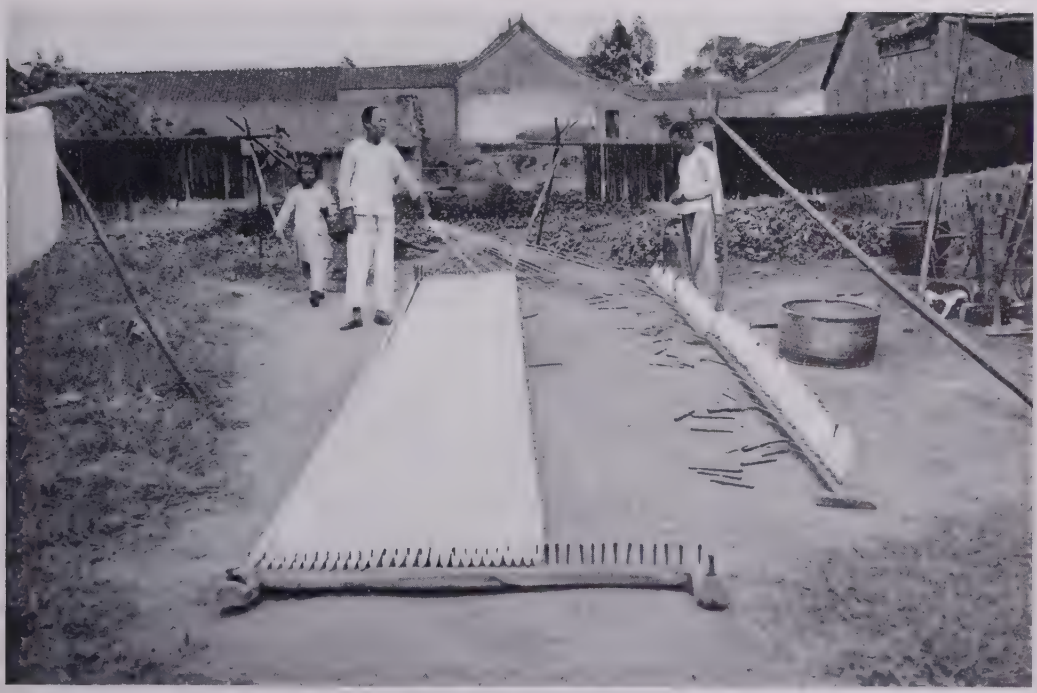
Both the Japanese and the British gave me to understand clearly that in spite of their successes with mills in China, the Chinese mills had every advantage over them in the manufacture of cotton goods in China except two: that of organization and management, and of common honesty. The first handicap would be overcome in time, they said; the second seemed inherent in the people as brought about by their living conditions for centuries, and was almost ineradicable. Each exit to a mill in China is provided with wooden barricades in zigzag form. As the operatives pass through in single file guards stand by the barricade to search them for small articles and waste stuff which they may have taken from the mill. Dr. Pearse reports that at one of the Japanese mills there were red boxes attached to pillars near the barricade, a large white hand pointing to the opening in the boxes, and underneath an inscription to the following effect: "Have you something in your pocket? Ask your heart. You do not want to steal. If the answer is Yes, put it at once into this box." In about 14 days every box is full of all kinds of waste, bobbins, bits of cloth, etc. The Chinese is a born trader, and he can find a market outside for even the most trivial thing.

Mill No. 2

The first Japanese-owned mills I visited belonged to a small company in Osaka, but they are the leaders in Shanghai. From the moment I stepped into their offices I felt that they had earned their place as the largest company of foreign-owned mills in China. Everything was as spick and span and up-on-its-toes as in Japan. Compared with the Chinese mills the plant radiated efficiency. This was a small mill of but 32,000 spindles and 800 looms, every one of which was made in Japan. Drawing frames, intermediates, slubbers, all were made by the Toyoda Loom Company, and the plain looms also. All the machinery was working apparently at full capacity, but there appeared surprisingly few hands at it, and they told me they average one girl to six plain looms, which is a high average for China. They usually employ 1 girl to each frame of 400 spindles, but sometimes used 2 girls to a frame. Men and women, they employed 950 per shift, or 1,900 in all, of which 1,400 were women. The machinery is practically never stopped, day or night, and many hands work 30 days in the month, although each is entitled to not less than 2 days per month holiday.

The average earnings of the women is 65 cents silver per day; of the men, 45 cents silver. China is one of the few countries where in industrial labor the man receives lower wages than the woman. The answer is that the men are not employed to do jobs which give them a training for increased remuneration, and there are so many of them that they are willing to work for what they can get. This Japanese company gives no bonuses nor food allowances, and does no welfare work. The hands come from surrounding villages or Up-country, and find their own living quarters in the villages of millhands not far from the mill. The older women are slow, due mostly to their bound feet, but work very steadily and require little supervision. The young girls, around 16, are quite as quick as the Japanese or American mill girls in their movements with unbound feet, and seem almost equally deft with their hands, but are not such steady workers. There were no infants or excess apprentices running around in this mill. The superintendent said the workers were very docile, cheerful, and industrious, giving no trouble at all. There were but 24 Japanese including executives, overseers, managers and foremen, as compared with around 2,000 Chinese.

Cotton and Other Goods from the Sian-Fu Plain Awaiting Shipment at Kwan Yi Fang



China's Cottage Industries.—*Preparing the warp yarns for the use of the household looms.*

This mill was making only a sheeting for domestic consumption, the Rainbow brand, one of the most popular in the Chinese market. It is a 12 pound cloth (3.25 in the American system) of 2480 ends, 22s–24s count, 36 inches wide, and they average 65 yards per loom per 11½-hour shift. Total cost of labor and power is 80 cents silver per piece of 40 yards, or somewhat less than 1 cent gold per yard. It seemed to me a well woven cloth, beautifully white, smooth, clean as to leaf and free of neps. But they loaded it, said the superintendent, with sizing to a final content of 18 per cent.

I went through one of the newest and smallest of the British mills, situated about one mile back from the Whanpoo River and about five miles from the Bund, or business heart of Shanghai. The two larger mills stand right on the riverfront, upon land of enormous value now; this is in excess of $100,000 gold per acre, although it cost less than one-twentieth of that price twelve or fifteen years ago. The mill I visited occupies about 40 mow, say 6½ acres, in an area where unimproved land can now be bought for from 5,000 to 7,000 taels (a tael at the time of my visit was worth 47 cents gold) per mow, or say $15,000 to $20,000 gold per acre. It has 26,000 spindles and 700 looms, and employs 2,200 hands, 1,800 being women.

Right here attention should be called to the differences in labor force of the three mills I have discussed. The Chinese-owned mills with 45,000 spindles and 900 looms employ a labor force in excess of 3,000; the Japanese mill with 32,000 spindles and 800 looms employs 1,900; the British mill with 26,000 spindles and 700 looms employs 2,200. These figures may serve as a loose indication of the manner in which the mills are being operated.

Mill No. 3

In the British mill the looms were all plain, Dobson & Barlow, British-made, as were the spinning frames, and they averaged 200 spindles per girl and 1–2 looms per hand, against 6 in the Japanese mill, and 1–2 hands per loom in the Chinese mill. They were making only one style cloth, an 11-pound sheeting, 45 x 45 construction, of 36″ width, and claimed an average production of 60 yards per shift of 11 hours, at a speed of 195 picks per minute. Their spinning and weaving women averaged $20 silver per month, or, at the prevailing rate of exchange at the time of my visit, about $7.00 gold, say 25 cents gold per day. Excepting only the heavy duty coolies, the men in this mill average from 20 to 40 cents silver, or 7 to 14 cents gold, per day less than the women.

The superintendent said that the net sizing remaining in the cloth from their slasher operation amounted to 10–12 per cent by weight, 20 per cent of which was clay.

The history of British mills in China has been one of startling ups and downs. In the earlier years of their establishment they made enormous sums of money. Later when, owing to political complications, the Chinese proclaimed a boycott against British goods, they lost almost as heavily. In recent years, when the Chinese boycott was switched from the British to the Japanese, they realized again handsomely from their opportunity. With an authorized capital of 4,500,000 taels (900,000 taels of preferential stock) in 1921, the first year of their full operation, they realized a net profit of 3,100,000 taels. In 1925, due to the Chinese boycott imposed against British goods and houses, that great profit dwindled to 19,000 taels in red. Slowly, however, they have made recovery as the boycott subsided or were turned against their Japanese competitors, until in 1929 their net profit was taels 2,931,000. Through adversity and

prosperity, however, judicious management has enabled them to maintain a sound position, and they continue to pay an annual dividend of 14 per cent, charging heavily against depreciation, and laying by the remainder of their profits against the lean years which may be encountered in China without warning.

Many British cotton men are convinced, however, that there is no continuing profit in foreign ownership of mills in China, other than Japanese. Certain British groups which formerly owned mills in China got rid of them in the belief that the political complications existing in that country, and likely to continue for many years to come, made them a dangerous venture; while it was felt also that the Japanese had, over a period of years, too great an advantage in their selling organizations, and in their knowledge of how to handle Chinese labor, for other foreigners to successfully compete with them.

From time to time foreign capital has considered the possibility of either independently or in connection with Chinese capital undertaking the erection of additional cotton mills. If the whole question was one of the future economic possibilities, it could scarcely seem otherwise than attractive. However, the political situation is such that in recent years foreign capital has been chary of considering such projects. Even the Japanese are said to be considering a withdrawal rather than an expansion of their cotton interests in China. The cause is to be found in the uncertain political future of the country. Foreigners can have no assurance that even if they acquire land and construct mills with the sanction of the local or prevailing National Government, they will subsequently be permitted to enjoy their possessions in peace. There is a strong undercurrent in Chinese opinion inclined to tax all foreign-controlled industries out of the land. Shanghai will probably either remain indefinitely, or to the last at least, a bulwark of foreign interests. Hence, any consideration of foreign mill development will probably be confined to the area included in or adjacent to the Shanghai Settlement. Land values there are high. On the riverfront available sites at this time run from silver $80,000 to $100,000 per mow (1/6 of an acre). At present rates of exchange this would be roughly $160,000 to $200,000 gold per acre. Five miles away, off the riverfront, land can be had for from $5,000 to $15,000 gold per acre.

The costs of erecting the mill vary according to the machinery used and the materials of mill construction. I was not able to obtain satisfactory information, and feel forced to fall back on a quotation from Dr. Pearse's report:

> *Cost of Mill Building:*—During the war the price, including all concrete buildings and reckoning 12½ spindles—one loom, came to Taels 58 per spindle; today it costs Taels 40—£5 1s. 9d. The best English machinery for producing 40s, delivered in China, works out at £2 10s. 0d. per spindle (no building cost included). A ring frame alone costs £1 0s. 0d. per spindle; a roving frame with 172 spindles, £328 0s 0d.
>
> The machinery is British, American, or Japanese, and recently the Chinese have started to make the heavy machinery. During the war, and immediately after it, when Lancashire textile machinists were too busy and charging high prices, the Americans got a footing in China and a large number of Saco-Lowell and Whitin machinery is to be seen. However, there seems to be a tendency to add British machinery in preference to American. Platts machinery is not as frequently found in China as in Japan, though lately they have had a good share of orders. Dobson & Barlow, Hetherington, Brooks & Doxey, Tweedale & Smalley, Asa Lees,

The Framework of a Mongol Yurta, or Tent, Going Up with Chinese Soldiers (*on the right*) Looking on, to Make it "Official"

These are Rich Women, with Their Silver Head Dress, of the Nomadic Tribes which Live off the Products of Their Horses and Sheep in Mongolia

The Great Wall of China *which was built over 2000 years ago to safeguard China from the barbarian hordes of Manchuria and Mongolia and extends 1500 miles across mountain and plain.*

A Favorite Mode of Travel on China's Narrow Highways

and Howard & Bullough are the usual suppliers of spinning machinery; Stubbs for doubling, and the Leesona winding frame is also finding its place. Butterworth & Dickinson and Henry Livesey seem to have had the principal share in the supply of looms, but the Japanese Toyoda plain loom has become a very serious competitor. During the war Crompton & Knowles delivered a good many looms. During the last few years two Chinese firms have made looms and sold a number of them to the Chinese mills. I visited the works of the Oriental Engineering Co., at Shanghai, where 700 operatives are principally engaged on textile machinery. They copy faithfully the Toyoda plain loom and the circular winding frame of Toyoda. The firm imports from England only the crankshaft of the looms. They make at present four looms per day, but hope to increase their output when they receive a Government subsidy. So far, these works have not been a financial success, but they are likely to become an important factor. Automatic machinery for cutting cogwheels, for polishing, etc., are being used. There is no compunction about imitating anybody's patent, unless it has been registered in China, and I am told by old residents that even then there will be great difficulties to fight for one's right. The many young Chinese whom I saw at work at lathes and other machine tools at these works seemed to know their jobs. The cost of a loom made by the Oriental Engineering Co., at Shanghai, is £18 0s. 0d.

Raw Cotton

Considerable attention is paid in the Chinese mills to the mixing of staples. Some mills add 5 per cent Indian to Chinese Shensi cotton when spinning 20s. When spinning 32s–40s they use mostly American cotton, but with a mixture of from 10 to 15 per cent or more of Chinese. They claim that Liangpo cotton with a staple of 7/8 inch to 1 inch is equal to the American cotton of the type that they get. Central China along the Yangtze, Shantung, Chihli, Shansi, and Shensi are the most important cotton-growing provinces. Shensi cotton is grown from seed imported originally from the United States, and is sometimes called "foreign cotton," although it is said to have deteriorated both as to color and strength. As everyone knows, Chinese cotton is strong of fiber, of a beautiful yellowish white, and hard. Generally speaking it is unsuitable, unless mixed with American staple, for use in yarns above 16s, although some mills claim to use it exclusively for 22s. Unfortunately, no methods have been yet devised that will prevent the Chinese farmer from delivering his cotton adulterated with both water and sand, and sometimes stones. It never gets him anything, for every pound of cotton is tested by the mills, and the weight of the adulterant is thrown back on the farmer. He still persists to think, however, that the mills will occasionally overlook his trick and pay him money for trash.

China's cotton crop generally averages around 2,500,000 bales, with about 3,000,000 bales of 500 lbs. each the largest crop in 1918–19, and 1,400,000 the smallest in 1921–22. Undoubtedly, both the quality and quantity of China's cotton production could be tremendously increased with peaceful conditions throughout the cotton-producing areas and more modern methods of cultivation.

Shanghai Market Methods

From 25 to 40 per cent of all the piece goods imported into China from abroad is sold in Shanghai at auctions. This method was started by the British over fifty years ago and has been maintained ever since. Several British importing firms in Shanghai hold auctions each week throughout the year, and these auctions are attended by practically every piece goods dealer in China, or by his Shanghai repre-

sentative. The principal goods sold at the auctions are geay and white shirtings, sheetings, black Italians, Venetians, Turkey reds, voiles, lawns, velvets and velveteens, and dyed and figured Italians. Auctions are conducted on the cash-on-delivery plan only, delivery usually being made from two to three weeks after the auction. At these auctions most of the brands of piece goods sold are well known to the Chinese and are in continual demand. It is a difficult matter to successfully introduce a new brand, even though it be of an excellent quality, because the Chinese will buy only what is known to them, or if they buy, they buy only at a very low price. It would take two or three years to develop a new line and get it so well established at these auctions that there might be a considerable sale for it. After that, however, if it should take well, both the American manufacturer and the Shanghai importer might find a very good sale, a steady demand, and at a fair price. There is one important point, however, to consider in this, and that is if a line should develop into a successful selling line, one's Oriental or European competitors would be almost sure to put a copy of it or a substitution of some kind on the market at a considerably cheaper figure.

I cannot help but form the opinion, therefore, that there is no volume trade in China for the American manufacturer. His one possibility is in specialties, such as baby blankets, or voiles, for which there could be only a fairly limited market. His old trade in flannels and grey piece goods is gone, never to be restored. In these specialties, which can be sold only by his direct representative, who will use American merchandising methods and American energy rather than trusting himself to auctions, no great volume need be expected. However, with perseverance, I am inclined to think that the market need not be sneezed at. While such goods could be put on the market by auction, the auctioneering firm charging a small commission for its services, it seems to me that American specialties can only be sold, as I have mentioned before, by the direct representatives, who must themselves be Americans or indulge themselves in American methods of merchandising.

That the Japanese have a great advantage over any other foreign manufacturer of cotton goods in the China market, the British have long ago found out. To begin with, say the British, there is only one intermediary between the Japanese manufacturer and the Chinese retailer, at most but two. That one is generally closely allied with the manufacturer, or, in other words, one of the agents of the Japan Cotton Company, or one of its allies. On the other hand, the British manufacturer will sell only to a British shipping house, who in turns ships to his representative in China, or to a foreign importer, who in turn has to sell to a Chinese who is a wholesaler, who then sells to the retail shop. It is apparent that here are four or five transactions, all of which must give a profit to the parties concerned, as compared with one transaction and one party in the sales between the Japanese manufacturer and the Chinese retailer. A British example is given below:

> This method gives the Japanese a tremendous advantage over the British manufacturer, as, generally speaking, he will only sell to a Manchester shipper; this shipper often has a resident representative in China who books business with a foreign importer, who in turn sells to a Chinese wholesaler, who sells to the retail shop. This train of intermediaries is costly and places British goods on a non-competitive basis, as shown by the following table.

Wool and Other Fleeces are Hauled from North China Plains in Crude Carts with Wooden Wheels. Goat Skins are Spread Over Them to Protect Them from the Weather

A Wool Market in North China

The Simple Life in a ChineseVillage

Ponies Carry China's Trade Over Loess Trails in the Central Provinces

Take, for example, one line, say of 200 pieces of cloth 28 inches by 30 yards, which approximately is equivalent to 40 cubic feet or 1 shipping ton.

200 Pieces at 11s. per Piece

	British s	*Japanese* s
Makers' cost	2,200	2,200
Manchester shippers' margin, 4 per cent	88	..
Freight, insurance, etc.	70	16
Japanese shipping agents' margin, 1 per cent	..	22
Shanghai importer, foreign, 5 per cent	118	..
Japanese receiving agent, 2½ per cent	..	56
Chinese wholesaler, say, 2 per cent	50	..
	2,526	2,294

Without taking into account the almost undoubted facts of the cheaper costs of production, finance, rate of interest, duty, etc., the above comparison makes a Japanese shipment, starting off at the same figure from the manufacturer, cheaper in the Shanghai retail shop by 232s., approximately 10 per cent difference.

China's Market to the Chinese

From everyone in the cotton business in Shanghai one gets the same opinion: That the Chinese market belongs more and more to the mills established in China. With the cheap and abundant Chinese labor they can produce a cloth entirely satisfactory to Chinese, especially in flannels and coarse fabrics, at a cost utterly beyond the possibility of outside competition. The full effects, however, will not be felt for many years, because it will be many years before the mills in China will be able to produce sufficient piece goods, even of the coarser yarns, to supply the demand. And what they cannot and will not be able to produce in a long time are certain Western novelties, not dependent upon price for their appeal. These may still find a considerable market in the aggregate.

The Chinese are rapidly learning, or acquiring, an aptitude for Western tastes, and they are quick to follow certain Western modes. The movies are largely responsible for this. It would be hard to find a people more movie-mad. The younger generation are already patterning themselves after American movie folk to an astonishing degree. They are fashioning their dress, their manners, modes of living and house furnishings after what they see in the movies that come to them from Western peoples. Although this is still largely confined to the Treaty Ports, these movies are beginning to slowly permeate all parts of the country. The specialty manufacturers—articles that possess novelty and an appeal to the eye—will sell in limited quantity almost anywhere in China.

The Political Future

The political situation is of course the one that most seriously concerns the development of the country, and one about which no one can speak with any real authority. China is going through an amazing period of flux and is changing from medievalism to a place in the modern industrial world. The extra-territoriality privileges enjoyed by foreigners, which shelter them under the laws of their several

countries and protect their property from the operations of Chinese law, is the crux of the situation so far as the interest of foreign capital and industrial development in China is concerned. There is, however, in Shanghai an almost universal belief among foreigners of all nationalities that it will not be five years before extra-territoriality is completely abolished throughout China—through the sheer force upon foreign powers of a Chinese pressure which foreign interests in the country will be unable to withstand.

The only possible exception to this is the area including Shanghai and extending seawards to include the mouths of the Yangtze River. There are many who believe that extra-territoriality there too will disappear. Others who believe that extra-territoriality as a principle is bound to disappear within the next ten years cannot believe that the Chinese will press for complete sovereignty over the Shanghai area, nor that the Powers would unqualifiedly concede it. Too great property and trade interests, both of foreigners and the leading Chinese, are at stake in this area for either to risk such a step. It is felt that for the protection of both Chinese and foreign interests the mouths of the Yangtze must be kept unfortified, open to the egress and ingress of all foreign vessels. Shanghai and the area between it and the sea will be made, say the advocates of this theory, into some sort of specially administered, neutralized territory under the joint control of China and the Powers.

APPENDICES TO CHINA SECTION

		Page
Appendix I	—Table of Chinese Imports of Cotton Goods in 1928	78
Appendix IIa	—Table of Net Imports of Cotton Goods into Shanghai, Tientsin, Kiaochow, Newchang, Dairen, Changsha, Amoy (Calendar Years)	82
Appendix IIb	—China Import and Export Trade in Raw Cotton	85
Appendix III	—Article in *Commerce Reports*, March 3, 1930, "Changing Cotton Textile Trade of China"	86
Appendix IV	—"Cotton Piece Goods in Manchuria," by Assistant Trade Commissioner Wilbur K. Hoyt, Mukden, China, May 26, 1930	90
Appendix V	Extract from Weekly Report of Trade Commissioner Don C. Bliss, Singapore, June 24, 1930	91
Appendix VI	—Extract from cablegram received from Reuter, London, July 26, 1930, Report of British Trade Mission to the Far East	92
Appendix VII	—List of Cotton Mills in China, from British *Chamber of Commerce Journal*	93

APPENDIX I CHINESE IMPORTS OF

Item	
Unbleached	
Shirtings and sheetings	pieces
Drills and jeans	"
T-cloths	"
Imitation native cotton cloth	piculs
Cotton flannel or flannelette	pieces
Bleached:	
Shirtings and sheetings, white, plain	"
White Irishes	"
Drills and jeans, white	"
T-cloths, white and Mexicans	"
Dimities, piques, vestings, quiltings, and bedford cords, white	"
Cambrics, lawns, muslins, nainsooks, mulls, jaconets, Victoria checks, Swiss checks, lappets, and lumbrics, white or dyed, plain or figured	"
Brocades, and shirtings, striped, spotted, corded and figured, white or dyed	"
Lenos, white or dyed	"
Leno brocades, white or dyed	yards
Shirtings and sheetings, dyed, plain	pieces
Pongees, dyed, plain, not over 30" x 33 yards	"
Drills and jeans, dyed, plain	"
Turkey reds, dyed T-cloths, embossed cantoons and alpacianos	"
Mercerized crimps, white, dyed, or printed, plain or figured	"
Oatmeal crepes, white or dyed, plain or figured	"
Cotton crepe, grey, bleached, dyed, printed or yarn-dyed	yards
Lastings	pieces
Sateens, Italians, imitation Venetians	"
Tientsin twills	"
Beatrice twills	"
Diagonal twills and serges	"
Herringbone twills	"
Ribs, cords, repps, and moreens	"
Sateen drills (5 shaft)	"
Sateen drills (over 5 shaft)	yards
Warp-faced sateens (not exceeding 5 shaft)	pieces
Sateen stripes	"
Poplins and poplin taffetas	"
Venetians	"
Cotton flannels or flannelette, white, dyed, or printed	"
Cotton flannel or flannelette, duplex or reversible prints	yards
Cotton flannel or flannelette, yarn-dyed	pieces
Cotton Spanish stripes, dyed, not over 64" by 20 yards	"

OTTON GOODS IN 1928

Great Britain	*Hong Kong*	*Japan*	*United States*	*Total All Countries*	*Total Value Haikwan Taels*
434,145	170,772	1,947,726	10,800	2,704,310	16,004,714
35,884	103,258	1,142,530	...	1,295,249	6,393,580
6,060	32,054	263,493	...	303,640	1,171,153
...	5	106,222	...	107,084	5,158,465
3,771	...	197,680	10,977	218,292	1,437,008
1,455,386	151,527	1,629,248	1,904	3,315,598	22,735,242
68	20	...	...	88	844
2,611	25,066	35,855	...	64,498	366,611
19,361	300	12,282	...	32,377	177,094
1,898	81	482	...	3,649	25,824
655,983	56,130	129,699	4,073	895,341	3,249,711
306,344	116,319	7,195	367	436,633	3,036,026
39,281	37,111	250	...	76,867	282,830
718,837	44,203	...	...	765,602	214,279
846	62,944	361,478	...	436,541	1,980,404
280	52,437	246,320	...	299,495	1,183,531
12,212	41,664	1,182,341	...	1,280,145	5,617,790
53,084	26,260	469,976	...	553,334	2,040,087
30,520	1,688	355	...	43,519	349,162
1,777	21,638	257,603	...	282,872	1,846,464
202,480	771,516	8,865,921	4,250	10,044,799	1,462,578
30,577	38,554	213,643	...	283,191	2,176,571
240,635	47,766	71,079	...	370,478	3,098,091
200,208	723	2,155	...	208,126	1,581,357
59,621	15,910	81,332	...	165,835	1,077,320
4,248	2,343	687,432	...	708,480	4,627,932
3,490	1,120	5,494	...	11,447	74,012
5,154	1,614	4,572	...	11,449	79,259
29,547	142,385	2,398,658	...	2,645,646	17,232,565
...	247,339	21,709,568	...	22,073,487	5,635,875
228,022	3,681	2,940	...	235,936	1,644,003
7,673	856	1,978	...	10,598	69,616
128,909	29,952	41,293	105	204,750	2,178,872
172,004	12,932	10,381	...	195,317	2,478,636
972	42,196	1,037,768	684	1,118,129	5,494,183
...	39,664	1,177,618	...	1,224,384	202,656
3,885	12,670	109,593	1,108	130,186	678,737
905	207	...	...	3,593	31,209
				Carried forward	123,094,291

APPENDIX I (*Concluded*) CHINESE IMPORTS OF

Item	
Bleached—Continued:	
Cotton velvets and velveteens, dyed, plain	yards
Cotton velvets and velveteens, printed, figured or embossed, velvet and velveteen cords, corduroys, fustians, moleskins and plushes	"
Canvas, cotton (including cotton duck) for sails	"
Stockinet or knitted tissue, raised or not raised	piculs
Cotton piece goods, grey, white or dyed, plain or figured, n. e. s.	"
Printed cambrics, lawns, muslins, shirtings, sheetings, and T-cloths	pieces
Printed drills, jeans, silesias, diagonal twills, twill cretonnes, and reps	"
Printed oatmeal crepes and oatmeal crepe cretonnes	"
Printed turkey reds, real and imitation	"
Printed sateens, satinets, Italians, damasks, Venetians, lastings, Beatrice twills, cords, poplins and moreens	"
Printed brocades, including printed fancy woven stripes or checks	"
Printed sateen drills	"
Duplex or reversible prints or shirting weave and one color only	"
Domestic cretonnes, sateen cretonnes, rep cretonnes, printed embossed figures, printed art muslins and casement cloths, printed cotton coatings, gabardines and trouserings	yards
Cotton piece goods, printed, n. e. s.	"
Cotton poplins, yarn-dyed	"
Cotton piece goods, yarn-dyed, n. e. s.	"
Chinese cotton cloths (Nankeens)	piculs
Total Value	

OTTON GOODS IN 1928

Great Britain	*Hong Kong*	*Japan*	*United States*	*Total All Countries*	*Total Value Haikwan Taels*
				Brought forward	123,094,291
2,387,222	186,088	954,598	2,515	3,582,483	1,833,414
77,766	11,812	1,253,296	...	1,379,847	499,881
1,087,642	455,395	1,623,490	9,093	3,217,342	1,062,882
...	14	3,159	...	3,173	205,670
...	...	...	...	...	4,072,184
154,370	138,696	2,195,996	30	2,983,222	11,389,831
8,998	147,910	1,626,110	...	1,791,311	8,737,300
1,229	377	3,413	...	5,521	39,757
...	...	...	...	1	5
50,714	12,419	291,367	362	371,804	2,464,171
200	308	1,810	...	2,355	12,764
101	11,099	798,306	...	818,068	6,036,805
601	653	...	..	1,329	8,304
108,117	18,492	24,210	...	432,627	141,963
...	...	...	...	...	341,767
2,873,155	43,533	1,497,659	...	4,441,699	1,375,250
3,130,673	1,655,065	11,187,133	40,950	18,104,357	3,371,557
...	2,467	...	...	2,543	171,353
...	...	...	...	...	164,859,149

APPENDIX IIA

NET IMPORTS

(*) IMPORTS OF COTTON GOODS INTO THE FOLLOWING CHINESE PORTS: SHANGHAI, TIENTSIN, KIACHOW, NEWCHANG, DAIREN, CHANGSHA, AMOY

(Calendar Years)

Ports and Items		*1927*	*1928*	*1929*
INTO SHANGHAI—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
English	Pieces	29,551	229,240	(**)58,526
Japanese	"	96,115	134,280	212,942
Drills and Jeans, Grey (3 and 4 shaft only), Japanese	"	79,958	25,760	44,699
Cotton Piece Goods, White or Dyed (irrespective of finish)				
Shirtings and Sheetings, White, Plain:				
Dutch	Pieces	12,207	4,945	821
English	"	340,871	301,538	266,230
Japanese	"	46,148	172,856	435,763
INTO TIENTSIN—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
English	Pieces	63,471	43,072	79,863
Japanese	"	256,690	273,950	222,430
Drills and Jeans (3 or 4 shaft only):				
English	"	5,260	2,567	6,140
Japanese	"	203,370	171,610	103,270
T-Cloths, Grey:				
English	"	10,449	6,500	7,400
Japanese	"	87,684	125,450	52,600
Cotton Piece Goods, White or Dyed (irrespective of finish)				
Shirtings and Sheetings, White, Plain:				
English	Pieces	194,494	183,953	252,038
Japanese	"	151,579	169,508	75,063

(*) The figures for 1929 for the rest of China are not available.

(**) Nothing could better express the effects of Chinese boycotts on trade than these figures with their remarkable fluctuation. In 1928 Japan suffered from a boycott due to the occupation of Tsinanfu in Shantung. Note the immediate effect upon her trade with the port of Shanghai, which was the center of the main anti-Japanese sentiment.

APPENDIX IIA (*Continued*) NET IMPORTS

(*) IMPORTS OF COTTON GOODS INTO THE FOLLOWING CHINESE PORTS:
SHANGHAI, TIENTSIN, KIACHOW, NEWCHANG, DAIREN, CHANGSHA, AMOY

(*Calendar Years*)

Ports and Items		*1927*	*1928*	*1929*
INTO KIACHOW—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
American	Pieces	180	....	120
English	"	7,329	8,985	3,564
Japanese	"	54,895	49,659	103,876
Drills and Jeans, Grey (3 or 4 shaft only):				
American	"	40	....	....
English	"	200	80	....
Japanese	"	2,320	2,908	8,371
Other nationalities	"	28	....	2
T-Cloths, Grey:				
English	"	50	....	....
Japanese	"	18,280	15,124	18,650
Cotton Piece Goods, White or Dyed (irrespective of finish)				
Shirtings and Sheetings, White, Plain:				
English	Pieces	49,887	26,422	32,114
Japanese	"	56,563	66,024	81,479
INTO NEWCHANG—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
English	Pieces	970	1,445	595
Japanese	"	6,720	11,570	9,490
Drills and Jeans, Grey:				
English	"	3,800	1,420	4,120
Japanese	"	42,400	400	55,211
T-Cloths, Grey:				
English	"	800	920	920
Japanese	"	....	....	....
INTO DAIREN—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
American	Pieces	....	80	....
English	"	6,481	7,926	5,730
Japanese	"	238,304	259,431	222,586
Drills and Jeans, Grey (3 or 4 shaft only):				
English	"	4,745	1,760	1,560
Japanese	"	87,531	70,267	44,503

(*) The figures for 1929 for the rest of China are not available.

APPENDIX IIA (*Continued*) NET IMPORTS

(*) IMPORTS OF COTTON GOODS INTO THE FOLLOWING CHINESE PORTS: SHANGHAI, TIENTSIN, KIACHOW, NEWCHANG, DAIREN, CHANGSHA, AMOY

(*Calendar Years*)

Ports and Items		*1927*	*1928*	*1929*
INTO DAIREN (*Cont'd.*)—				
Cotton Piece Goods, White or Dyed (irrespective of finish)				
Shirtings and Sheetings, White, Plain:				
English	Pieces	63,702	49,184	52,342
Japanese	"	50,793	58,042	80,911
Other nationalities	"	860	97	94
INTO CHANGSHA—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
American	Pieces	400	....	2,040
English	"	4,750	7,795	30,614
Japanese	"	7,880	7,560	5,520
Drills and Jeans, Grey (3 or 4 shaft only):				
English	"	....	3,040	5,440
Japanese	"	7,880	7,560	5,520
INTO AMOY—				
Cotton Piece Goods, Grey				
Shirtings and Sheetings, Grey:				
English	Pieces	5,960	7,575	9,164
Japanese	"	17,170	6,930	6,396
Drills and Jeans, Grey (3 or 4 shaft only):				
English	"	285	150	435
Japanese	"	2,370	2,265	2,500
T-Cloths, Grey:				
English	"	4,065	1,440	520
Japanese	"	60,940	28,810	39,040
Cotton Piece Goods, White or Dyed (irrespective of finish)				
Shirtings and Sheetings, White, Plain				
English	Pieces	18,590	13,644	10,821
Japanese	"	6,437	7,748	17,624
Drills and Jeans, White (3 or 4 shaft only):				
English	"	1,661	763	691
Japanese	"	5,780	4,904	4,575

(*) The figures for 1929 for the rest of China are not available.

Appendix IIb CHINA'S IMPORT AND EXPORT TRADE IN RAW COTTON

In Quantity Only

Items and Countries	*Calendar Years*		
	1927	*1928*	*1929*
	Piculs	*Piculs*	*Piculs*
Imports of raw cotton from—			
United States	917,047	489,230	.....
India	748,551	981,673	.....
Japan	805,601	447,735	.....
Other countries	20,185	14,652	.....
Total	2,491,384	1,933,290	2,492,963[1]
Re-exports abroad	75,902	17,150	.....
Net imports	2,415,482	1,916,140	.....
	Pounds	*Pounds*	*Pounds*
	322,054,300	252,152,000	332,395,100
Exports of raw cotton to—			
United States	231,368	153,592	.....
Japan	1,146,649	867,214	.....
Germany	35,910	57,224	.....
Other countries	33,023	33,526	.....
Total	1,446,950	1,111,558	2,238,327[1]
	Pounds	*Pounds*	*Pounds*
	192,926,700	148,207,700	298,443,600

[1]Note: No distribution by countries is made in the preliminary returns for either exports or imports of raw cotton in 1929, but, in the case of Shanghai's imports for 1929, which amounted to 1,890,000 piculs, practically one-half of the total originated in the United States.

The exports, noted as credited to Japan, doubtless were either originally from the United States or India.

Appendix III

CHANGING COTTON TEXTILE TRADE OF CHINA

Chinese Cotton Mills Produce Approximately 880,000,000 Pounds of Cotton Yarn and 586,000,000 Yards of Cotton Cloth Annually—Cotton Yarns Once Imported in Huge Quantities Now Exported—Japan Displacing Great Britain in China's Piece-Goods Trade

Consul J. C. Huston, Shanghai

The year 1929 proved very satisfactory to the Chinese cotton-spinning mills and was one of the most prosperous since the war, according to an official of the Chinese Cotton Millowners' Association. Consumers' stocks of cotton yarns had become exhausted and demand for cotton yarn began to increase in the last half of 1928 and continued throughout the spring and summer of 1929. Hundreds of orders for cotton yarn were received by the local mills. The anti-Japanese boycott prevented the Japanese cotton-spinning mills in China from getting much of the business in cotton yarns during the first half of 1929, but when the boycott was abandoned, the Japanese mills sent large consignments of yarn into the interior. As a consequence, the market again became overstocked and dominated largely by the Japanese mills, which were said to have profited more in the end than did the Chinese-owned mills.

Another favorable factor in 1929 was the absence of labor disputes. Although labor costs are said to have increased, the larger output and better prices realized for manufactured products more than offset the higher labor costs. Profits of the local mills during 1929 have been estimated as ranging from $63,000 to $422,000 per mill.

Production of Cotton Yarn and Cloth

In 1929 China had 120 cotton mills equipped with 3,664,120 spinning spindles, 185,896 twisting spindles, and 29,582 looms, according to statistics published by the China Merchants' Cotton Mills' Association and reprinted in the May 18, 1929, issue of the Chinese Economic Bulletin. These mills employed 241,559 workers and consumed approximately 1,089,333,000 pounds of raw cotton. The annual production of cotton yarn was placed at about 880,000,000 pounds of cotton yarn and 14,650,000 pieces (586,000,000 yards) of cotton cloth. The association credited the Chinese-owned mills with a consumption of 659,533,000 pounds of raw cotton and an output of 549,115,000 pounds of cotton yarn and 240,362,000 yards of cloth. The production of all cotton mills in China in 1915 was estimated at 200,000,000 to 250,000,000 pounds of cotton yarn and 40,000,000 to 50,000,000 yards of cloth.

Growth of Cotton Manufacturing in China

The development of cotton manufacturing in China began with the establishment of a Government owned and operated cotton mill, equipped with modern machinery, in Shanghai. By 1896 China had 12 cotton mills with a total of 417,000 spindles and 2,100 looms, of which 158,000 spindles and 350 looms were foreign-owned. By 1915 China had 31 cotton mills with a total of 1,008,986 spindles and 4,564 looms. During the World War the industry was developed on a large scale and huge amounts of Chinese capital were invested in anticipation of quick returns. A slump occurred in 1921 and another serious crisis was experienced in 1923, resulting in a considerable shrinkage in the ownership of Chinese spindles. Owing to disturbances in the interior, Chinese capitalists have preferred to invest their money in mills in the larger treaty ports.

The following table shows the expansion of the industry and the ownership of cotton mills in China:

NUMBER AND OWNERSHIP OF COTTON MILLS IN CHINA FOR SPECIFIED YEARS

Ownership and Year	*Number of Mills*	*Spinning Spindles*	*Looms*	*Ownership and Year*	*Number of Mills*	*Spinning Spindles*	*Looms*
Chinese owned:				*British owned:*			
1896	7	259,000	1,750	1915	4	195,056	924
1915	22	544,010	2,254	1925	4	205,320	2,348
1925	69	1,881,822	16,381	1927	4	205,320	2,348
1927	73	2,033,588	13,459	1928	3	153,320	1,900
1928	74	2,087,506	13,907				
				Total:			
Japanese owned:				1896	12	417,000	2,100
1915	3	165,952	886	1915	31	1,008,986	4,564
1925	45	1,326,920	7,205	1925	118	3,414,062	25,934
1927	42	1,302,676	13,981	1927	119	3,541,584	29,788
1928	43	1,397,272	13,981	1928	120	3,638,098	29,788

NOTE.—Foreign-owned mills in 1896 had 158,000 spindles and 350 looms. Data for the ownership for that year by nationalities is not available. In addition to the Chinese, Japanese, and British mills listed for 1915, the total includes 1 Anglo-German mill with 50,768 spindles and 1 German mill with 53,200 spindles and 500 looms. Figures for 1925 are reprinted from the February, 1926, issue of the Chinese Economic Monthly. Data for 1927 and 1928 were prepared in the office of a Shanghai cotton merchant.

COTTON MANUFACTURING CENTERS IN SHANGHAI

Shanghai is the principal center of cotton manufacturing in China. Of the 120 cotton mills in China in 1928, fully one-third of the Chinese-owned mills, over 30 of the Japanese-owned, and all 3 of the British-owned were located in Shanghai. The remainder of the Chinese and Japanese owned mills are in Kiangsu, Chihli, Hupeh, and a few other Provinces. During the past decade the cotton-mill industry in Shanghai has made great strides. The number of mills in Shanghai owned by the members of the Chinese Millowners' Association increased from 12 to 24 and the spindlage from 253,666 to 711,986. During the same period the number of Japanese-owned mills rose from 7 to 30 and spindlage from 263,968 to 948,268.

Complete details are not available for 1929 as to the distribution of cotton mills in China, but the Chinese Cotton Millowners' Association of Shanghai published the following statistics regarding the Chinese-owned cotton mills:

DISTRIBUTION OF CHINESE-OWNED COTTON MILLS IN 1929[1]

Location	*Number of Mills*	*Spindles Active*[2]	*Looms Active*	*Number of Operatives*	*Cotton Consumption*	*Production*	
						Yarn	*Cloth*
					1,000 Pounds	*1,000 Pounds*	*1,000 Pounds*
Greater Shanghai	24	776,388	7,398	50,555	222,641	188,224	99,590
Kiangsu Province	19	433,496	3,426	35,528	128,507	96,739	52,391
Hopei Province	9	282,460	1,860	21,628	91,104	77,857	38,572
Hupeh Province	5	262,096	2,878	24,184	127,573	99,924	45,848
Honan Province	4	107,280	200	6,750	26,439	21,860	1,235
Chekiang Province	3	58,120	225	3,030	14,667	12,000	...
Shantung Province	2	58,000	...	5,400	17,467	23,840	...
Anhwei Province	1	15,200	...	1,114	3,241	2,700	...
Hunan Province	1	40,000	300	2,350	13,333	11,200	...
Shansi Province	2	19,648	...	1,451	1,880	4,443	...
Liaoning Province	1	20,480	200	2,237	7,081	5,728	2,726
Kiangsi Province	1	25,360	300	1,071	5,600	4,600	...
Shensi Province	1	15,000	...	...	...	...	...
Total	73	2,113,528	16,787	155,298	659,533	549,115	240,362

[1] Source: Chinese Economic Bulletin, Oct. 12, 1929, pp. 189–191.

[2] In addition to the spinning spindles enumerated in the table, the mills had 68,352 twisting spindles, of which 43,108 were in Greater Shanghai, 7,500 in Shantung, 7,296 in Hopei, 6,320 in Kiangsu, 3,240 in Hupei, and 888 in Liaoning Province.

FACTORS FAVORING GROWTH OF COTTON INDUSTRY IN CHINA

The vast majority of China's population of more than 400,000,000 wear clothing made of cotton. The proverbial long blue gown is still the predominating national costume. The country, therefore, offers one of the largest home markets in the world for cotton goods.

China ranks third among world cotton producers, with a crop one-sixth to one-seventh of that of the United States. The native cotton has a short staple suitable for spinning counts up to 20s and these yarns can be used in weaving coarse materials such as sheetings and drills. About two-thirds of the cotton consumed by the Chinese cotton mills is grown locally. The domestic supply is supplemented by imports from British India and the United States.

China's huge population furnishes an ample supply of labor, which, with proper training and direction, is reasonably efficient and any difference in skill between Chinese and Western labor is compensated by the longer hours and lower wage scales prevailing in China. The Government authorities are attempting to guide the labor-union movement in Shanghai through the Social Affairs Bureau and this policy has resulted in a conservative course of action in labor matters.

The three factors favoring the development of cotton manufacture in China may be summed up as follows: An extensive home market for cotton goods; a good supply of raw material; and cheap labor.

CHINA'S 1913 AND 1928 IMPORTS OF RAW COTTON COMPARED

In 1928 China imported 257,772,000 pounds of raw cotton, valued at $48,670,000, compared with 18,382,400 pounds, with a value of $2,254,000, in 1913. The bulk of this cotton

enters through the port of Shanghai, which was credited with 212,784,000 pounds in 1928 and 18,285,000 in 1913. Of the 1928 imports through Shanghai, 136,922,000 pounds were classed as Indian and 75,315,000 as American, compared with 10,756,000 and 3,508,000, respectively, in 1913. Official Chinese foreign-trade returns for 1928 show 130,890,000 pounds of cotton imported from British India, 65,231,000 from the United States, and 59,698,000 from Japan. Generally, receipts from Japan consist of about equal quantities of American and Indian cotton.

Chinese cotton mills in China are spinning finer yarns each year, and the average was brought up from 16s in 1927 to about 20s in 1928, according to the report on the Japanese and Chinese cotton industry, prepared by Mr. Arno S. Pearse, general secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Association, Manchester, England. Several mills are spinning small quantities of 60s, but quite a number are engaged on 40s.

American cotton, which has a longer staple than Chinese varieties, is in demand by Chinese cotton mills for mixing with the local staple in the production of the finer counts. The importation of American cotton, however, is still largely dependent upon price. In 1929 the United States shipped 233,066 bales of raw cotton (except linters), valued at $23,149,000, to China, Hong Kong, and Kwantung, compared with 170,333 bales, worth $17,743,000, in 1928. The increase in 1929 is probably attributable to inadequate supplies of local cotton.

Present and Pre-war Imports of Cotton Yarns

With the expansion of the domestic cotton-spinning industry, Chinese imports of cotton yarn have been reduced tremendously and an export trade of considerable importance has been developed.

In 1913 China imported 358,048,000 pounds of cotton yarn, valued at $52,167,000. Japan was credited directly with about 44 per cent of the value of these yarn imports, British India with 25 per cent, and Hong Kong with 26 per cent. Receipts from Hong Kong, however, represented trans-shipments from India and, to a much smaller extent, from Great Britain. In 1928 Chinese imports of cotton yarns comprised 34,067,000 pounds of unbleached or grey yarns and 3,973,000 of other yarns, with values of $9,750,000 and $2,109,000, respectively—a total of 38,040,000 pounds and $11,859,000. Japan's share in the 1928 yarn import consisted of 8,138,000 pounds of grey and 3,677,000 pounds of other yarns, while Hong Kong was credited with 21,646,000 pounds of grey and 133,000 of other yarns, and British India with 3,531,000 pounds of grey and 4,000 of other yarns. Direct importation from Great Britain was negligible and British official export statistics show shipments totaling only 1,725,000 pounds in 1928 to China and Hong Kong. It may be assumed, accordingly, that the bulk of the imports from Hong Kong was of Indian origin.

Exports of Cotton Yarn Spun in Chinese Mills

In 1915 exports of cotton yarn spun in Chinese mills amounted to 2,688,000 pounds. In 1928 such exports totaled 46,643,000 pounds, valued at 21,590,000 Haikwan taels ($15,329,000), of which all but 5,600 pounds and $2,000 represented shipments of grey yarns. The principal markets in 1928 and the quantity exported to each were as follows: Hong Kong, 29,089,000 pounds; British India, 9,358,000; and the Netherland East Indies, 3,435,000.

Shifts in Sources of Piece-Goods Imports

Chinese imports of cotton piece goods had an average annual value of about 92,000,000 Haikwan taels in the four years 1910 to 1913, inclusive, and of 154,000,000 taels during 1925 to 1928, inclusive. Converted at the average exchange rate of the Haikwan tael for each year, the average annual values amounted to approximately $64,155,000 for 1910 to 1913 and to $115,912,000 for 1925 to 1928. The value of imports of cotton piece goods increased from

$88,406,000 in 1927 to $117,002,000 in 1928, not because of any extraordinary demand for cotton cloth but owing to a desire to accumulate stocks before the increased duties became effective February 1, 1929.

Japan has supplanted Great Britain as the principal source of China's piece-goods imports. Of $82,464,000 worth of cotton piece goods imported in 1913, Great Britain supplied about 53 per cent; Japan, 20; Hong Kong, 9; and the United States, 8. Of the imports valued at $117,002,000 in 1928, Japan's share was 61 per cent; Great Britain's, 21; Hong Kong's, 7; and the United States, about 0.15. About two-thirds of the imports from Hong Kong are said to be of British origin.

Official British export figures show that British shipments of cotton piece goods to China and Hong Kong declined from a total of 736,532,000 square yards in 1913 to 186,521,000 square yards in 1928 and increased slightly to 188,314,000 square yards in 1929. The quantity exported from Japan to China was not shown in the official statistics for 1913, but Japan shipped 654,422,000 square yards of cotton cloth to China in 1928 and 528,224,000 square yards in the first nine months of 1929. In 1913 the United States exported 80,462,000 square yards of cotton cloth to China, and in 1928 only 1,321,000 square yards.

Japan dominates the Chinese trade in imported piece goods in the cheaper grades but Great Britain has managed to retain a considerable portion of the business in the better lines. The Japanese success in the Chinese market is attributed to lower prices, Japan's proximity to China, efficient merchandising and selling organizations, close attention to Chinese preferences, and an understanding of Chinese business methods.

APPENDIX IV

COTTON PIECE GOODS IN MANCHURIA

By *Assistant Trade Commissioner* WILBUR K. HOYT, Mukden, China, May 26, 1930

The Northeastern Provinces of China, more generally referred to as Manchuria, offer but little opportunity to the American manufacturer of cotton piece goods. While it is true that the vast majority of the population wears cotton clothing, the predominating costume is the long blue gown made of material known locally as "coolie cloth" (shirting, produced in China or Japan, and dyed locally).

This region depends to a very large degree upon agriculture for its prosperity and the population is overwhelmingly rural. No statistics are available showing the per capita purchasing power of the population, but the American Consul in Harbin has recently estimated that the annual budget of the North Manchurian farmer family of four to six persons ranges from $22.00 to $35.00, U. S. currency. This being the case, it is clear that the demand for imported articles must come from the foreign colonies and the wealthier Chinese classes, many of whom have been educated abroad.

Recent estimates place the total population of this area at about 27,000,000, of whom 200,000 are Russians and about 200,000 Japanese. Europeans and Americans living in Manchuria probably do not exceed 2,500. Although the tastes of the Russians are similar to those of Americans, the per capita purchasing power is considerably lower than that of other foreign colonies. Many of the Japanese wear occidental style clothing, but there is a large group which still clings to the kimono, and, as has been stated above, the predominating costume among the Chinese is still the long blue gown.

It is impossible to obtain statistics showing the consumption of cotton piece goods in this territory, but imports during the year 1928 (the last year for which figures are available) amounted to about Haikwan Taels 41,000,000, approximately $29,110,000 U. S. currency. Japan supplies about 65 per cent of the goods imported, Chinese mills obtain about 25 per cent of the business, and the balance of 10 per cent is divided among all other countries.

The largest single item entering the trade is grey shirtings, of which 1,050,686 pieces of not over 41 yards, valued at Haikwan Taels 6,084,248, were imported during 1928. Of these imports England supplied 6,580 pieces valued at Haikwan Taels 48,553, the balance all coming from Japan. Imitation native cotton cloth of shirting weave is also an important item, imports of this material during 1928 amounting to Haikwan Taels 5,109,143. Other articles supplied in large quantities are serges, white shirtings, sateen drills (5 shaft), and jeans. Imports from Great Britain also include white shirtings and sheetings, 62,073 pieces of 42 yards, valued at Haikwan Taels 460,107 in 1928, and plain black Venetians.

The figures compiled by the Chinese Maritime Customs do not segregate imports of cotton piece goods from the United States, nor have we been able to get an estimate of the extent of this trade in business circles. American manufacturers simply cannot compete in this market on a price basis, however, and their efforts have been along the line of obtaining business on a quality basis. The principal items imported from America include bleached cotton cloths, voiles, percales, crepes, and "other printed cloths." The principal demand for American cotton piece goods undoubtedly comes from Harbin where there is a Russian community of some 60,000 persons. In other parts of the territory the market is confined almost entirely to the small American and European colonies.

The commanding position of Japan in this trade is, of course, due principally to the fact that this is a price market. Japanese goods can be delivered in Manchuria at prices from 33⅓ to 66⅔ per cent lower than those of European or American goods of the same quality. An interesting point brought up during this investigation was the statement of several importers that Japanese prices are so low that the industry must be subsidized by the Government. An additional factor in favor of Japan's leadership in the cotton piece goods trade in Manchuria is the proximity of the Japanese mills to this market. Both Chinese and Japanese manufacturers treat this area as domestic territory and send their own traveling representatives on periodic trips through the country rather than booking orders through a local agent. Orders can be filled within three weeks, compared to the two months required for shipments from Europe or the United States, and dealers are thus enabled to keep their stocks down to a minimum.

Due to their periodic visits through the territory these representatives of Japanese and Chinese mills are well acquainted with the financial standing of the firms with whom they deal and grant credits of from two to three months.

The majority of transactions with American or European manufacturers or exporters are on an indent basis, usually giving one month's credit after arrival of the goods. Temporarily, however, the indent houses are to all intents and purposes stockists as a result of the large number of refusals of shipments by dealers during the business depression following the Sino-Soviet conflict of 1929 and the slump of silver this year.

It is extremely doubtful whether Manchuria will ever be an important market for American cotton piece goods. Chinese mills are slowly obtaining a larger share of the business and may in time supplant Japan as the leader in supplying the local demand, but in our opinion American and European manufacturers will have to continue competing, as they are now, on a strictly quality basis.

Appendix V

EXTRACT FROM WEEKLY REPORT OF TRADE COMMISSIONER DON C. BLISS, SINGAPORE, JUNE 24, 1930

The *textile markets* are in the worst state they have been in for years, and European importers of Manchester goods are liquidating their stocks at sacrifice prices. Some of them state that they will not re-enter the textile field, in view of the difficulty of competing with Japan. They

have been losing money steadily for years on their textile lines, and the camel's back is now shattered. Curiously enough, the only textile lines that seem to be going well are silks, particularly Chinese silks, which are being sold at bargain prices on account of the favorable exchange rate with China since the break in silver.

APPENDIX VI

REPORT OF BRITISH TRADE MISSION TO THE FAR EAST

"According to the Secretary of the Manchester Cotton Trade Statistical Bureau the Trade Mission for the Far East will consist of a main mission to study the markets from the point of view of trade generally, and a special cotton trade section. Part of the expenses of the latter will be paid by the Lancashire cotton industry.

"The constitution of the missions is not yet complete but will probably be announced about the middle of next week.

"The missions will leave about the third week of September. Both employers and employed will be represented on the cotton mission, which will be almost a small replica of the joint committee of the cotton trade organization of Manchester.

"Possibly the cotton section will spend some time in Canada en route to the Far East. Some time will also be spent in Japan and about three months in China, so the mission will be away altogether about six months.

"The missions being Government ones will report to the Government and not to the trade organizations, and on their return the Overseas Development Council will consult the missions very closely in order to receive their recommendations.

"The mission will probably be the most powerful economic mission to leave this country for many years. The woolen, engineering, and other important industries as well as the cotton industry will be represented."

(From Reuter's cablegram, London, July 26, 1930.)

APPENDIX VII LIST OF COTTON MILLS IN CHINA

The following list of cotton mills in China is taken from the British *Chamber of Commerce Journal*, and is the latest available. The amount of capital invested in the mills is said to be about $400,000,000 silver, or, at the normal rate of exchange, U. S. $200,000,000; and the number of hands employed nearly 250,000. During 1927 it was estimated that approximately 8,000,000 piculs (a picul equals 133⅓ pounds) of raw cotton was consumed in producing over 2,000,000 bales of yarn. The amount of cloth produced was nearly 9,000,000 pieces.

Nearly 70 per cent of the spindles, and a still larger percentage of looms used, are of British manufacture. A small quantity of the remaining 30 per cent are Japanese made, and the rest are from the United States.

	Name	*Situation*	*Nationality*	*Year Work Commenced*	*No. of Spindles*	*No. of Looms*
1	Heng Foong	Shanghai	Chinese	1890	44,400	612
2	Anglo-Chinese	"	"	1907	13,548	...
3	Shen Hsin, No. 1	"	"	1916	38,880	1,110
4	Shen Hsin, No. 2	"	"	1907	35,000	...
5	Shen Hsin, No. 5	"	"	1914	31,116	...
6	Hong Yue	"	"	1916	43,900	240
7	Poh Yih, No. 1	"	"	1918	28,120	...
8	Poh Yih, No. 2	"	"	1924	24,000	500
9	Hou Sun	"	"	1918	60,688	920
10	Wei Tung	"	"	1921	24,576	...
11	Tung Chang	"	"	1879	11,592	...
*12	San Sing	"	"	1922	69,880	1,000
13	Tung Yih	"	"	1920	59,214	...
14	Heng Dah	"	"	1921	15,552	...
15	Hua Feng	Woosung	"	1921	25,600	...
16	Wing On, No. 1	Shanghai	"	1924	39,000	1,350†
17	Wing On, No. 2	"	"	1921	55,000	...
18	Yung Yue	"	"	1921	12,000	...
19	Dah Foong Ching Chi	"	"	1923	25,920	224
20	Cheng Tai	"	"	1921	25,960	...
21	Hong Chang	"	"	1921	20,736	260
*22	Tsung Hsin	"	"	1922	34,000	...
23	Ming Sun	"	"	....	8,500	...
24	Tsin Wei	"	"	....	5,120	...
25	Dah Sung, No. 1	Nantungchow	"	1899	77,380	720
26	Dah Sung Branch	"	"	1924	16,204	...
27	Dah Sung, No. 2	Tsungming	"	1907	35,000	200
28	Dah Sung, No. 3	Haimenhsien	"	1921	38,240	422
29	Ta Tung	Tsungming	"	1922	14,000	...
30	Yeh Chin	Wusih	"	1895	13,832	...
31	Cheng Sing	"	"	1906	30,000	...
32	Kwang Chin	"	"	1917	19,968	52
33	Ching Foong	"	"	1921	18,400	300
34	Yu Kong	"	"	1921	17,600	...
35	Shen Hsin, No. 3	"	"	1921	51,000	504

APPENDIX VII (*Con.*) LIST OF COTTON MILLS IN CHINA

	Name	*Situation*	*Nationality*	*Year Work Commenced*	*No. of Spindles*	*No. of Looms*
36	Soo Lun	Soochow	Chinese	1896	22,568	...
37	Yuan Kee	Changchow	"	1906	12,740	...
38	Tai Tsang	Taitsang	"	1906	22,700	...
39	Changchow	Changchow	"	1921	18,200	...
40	Dah Lun Chiu Kee	"	"	1921	10,000	260
41	Lee Yung	Kiangyin	"	1896	15,000	...
42	Kwang Shin	Changchow	"	1885	5,600	...
43	Li Ming	"	"	....	5,740	...
44	Hwa Sin	Tientsin	"	1918	27,000	...
45	Hwa Sin	Lanhsien	"	1922	24,300	...
46	Yu Yuan	Tientsin	"	1918	71,360	1,976†
47	Hung Yuan	"	"	1920	34,760	310
48	Pei Yang Commercial, No. 1	"	"	1921	25,000	...
49	Yu Ta	"	"	1921	35,712	...
50	Pao Chen, No. 3	"	"	1921	28,000	...
51	Dah Sin	Shihkiachwang	"	1922	24,768	300
52	Kai Ming	Wuchang	"	1903	90,000	700
53	The Hankow, No. 1	"	"	1919	90,400	1,200
54	Yu Wah	"	"	1922	41,000	500
55	Cheng Huan	"	"	1921	25,000	250†
56	Shen Hsin, No. 4	Hankow	"	1921	15,000	...
57	Kwang Yi	Anyanghsien	"	1909	29,000	...
58	Yu Foong	Changchow	"	1920	51,840	200
59	Chen Shing	Wutsehsien	"	1919	6,780	...
60	Wah Sin	Weihwei	"	1922	22,400	...
61	Tung Yih Kung	Hangchow	"	1897	20,000	125
62	Hui Tung Hui	Shaoshanhsien	"	1899	14,560	...
63	Ho Foong	Chinghsien	"	1907	23,200	...
64	Lu Feng	Tsinan	"	1916	26,000	...
65	Wah Sing	Tsingtao	"	1920	36,500	...
66	Chin Wah	Yutzehsien	"	1924	13,600	...
67	Ta Yuh Chen	Sinkianghsien	"	1927	6,000	...
68	Sing Chih	Paotihsien	"	....	13,480	...
69	Yu Chung	Wuhu	"	1919	15,200	...
70	The Hunan, No. 1	Changsha	"	1920	40,000	...
71	Feng Tien	Mukden	"	1923	21,368	200
72	Kiu Hsing	Kiukiang	"	1916	15,300	300†
73	Tai Feng	Weipei	"	....	15,000	...
74	Ewo Cotton Mill	Shanghai	British	1896		
75	Yangtszepoo	"	"	1907	161,860	2,114
76	Kung Yik	"	"	1914		
77	Oriental Weaving and Spinning Co.	"	"	1897	52,000	448
78	Shanghai Cotton Manufacturing Co., No. 1	"	Japanese	1895	20,392	...

APPENDIX VII (*Con.*) LIST OF COTTON MILLS IN CHINA

	Name	*Situation*	*Nationality*	*Year Work Commenced*	*No. of Spindles*	*No. of Looms*
79	Shanghai Cotton Manufacturing Co., No. 2	Shanghai	Japanese	1896	25,480	...
80	Shanghai Cotton Manufacturing Co., No. 3	"	"	1916	50,552	...
81	Sino-Japanese Cotton Manufacturing Co., No. 1	Pootung	"	1877	43,056	...
82	Sino-Japanese Cotton Manufacturing Co., No. 2	"	"	1877	10,500	500
83	Sino-Japanese Cotton Manufacturing Co., No. 3	Shanghai	"	1918	30,000	...
84	Sino-Japanese Cotton Manufacturing Co., No. 4	"	"	1921	25,552	...
85	Kia Ho Cotton Manufacturing Co., No. 1	"	"	1921	41,472	200
86	Kia Ho Cotton Manufacturing Co., No. 2	"	"	1921	69,952	...
87	Naigai Wata Kaisha, No. 3	"	"	1911	23,040	...
88	" " " No. 4	"	"	1912	40,000	...
89	" " " No. 5	"	"	1915	71,420	...
90	" " " No. 7	"	"	1919	...	600
91	" " " No. 8	"	"	1919	40,896	...
92	" " " No. 9	"	"	1908	26,936	1,000
93	" " " No. 12	"	"	1922	20,800	2,184
94	" " " No. 13	"	"	1922	24,000	800
95	" " " No. 14	"	"	1922	24,000	800
96	" " " No. 15	"	"	1923	48,800	...
97	Tokawa Boseki Kaisha, No. 1	"	"	1921	...	...
98	" " " No. 2	"	"	1921	45,000	...
99	" " " No. 3	"	"	1921	...	...
100	Dong Shing S. & W. Co., Ltd., No. 1	"	"	1921	61,360	...
101	Dong Shing S. & W. Co., Ltd., No. 2	"	"	1921	28,000	1,040
102	Shanghai Silk Spinning Company's Cotton Mill, No. 1	"	"	1921	52,912	803
103	Kung Mow Cotton Mill	"	"	1895	41,000	620
104	Dah Kong Cotton Spinning Co., Ltd., No. 1	"	"	1922	...	...
105	Dah Kong Cotton Spinning Co., Ltd., No. 2	"	"	1923	...	...
106	Toyoda Cotton and S. Co., Ltd.	"	"	1921	61,536	960
107	Toyo C. S. Co., Ltd.	"	"	1922	48,000	...
108	Naigai Wata Kaisha, No. 6	Tsingtao	"	1918	20,800	...
109	" " " No. 10	"	"	1918	20,000	...

APPENDIX VII (*Con.*) LIST OF COTTON MILLS IN CHINA

	Name	*Situation*	*Nationality*	*Year Work Commenced*	*No. of Spindles*	*No. of Looms*
110	Naigai Wata Kaisha, No. 11 . .	Tsingtao	Japanese	1918	23,200	. . .
111	Fuji Cotton S. Co., Ltd.	"	"	1921	63,200	. . .
112	Kaga Fuchi C. S. Co., Ltd. . . .	"	"	1923	44,928	957
113	Lung Hsin Cotton Mill	"	"	1923	26,360	. . .
114	Pao Lai Cotton Mill	"	"	1923	21,568	. . .
115	Dah Kong Cotton S. Co., Ltd. . .	"	"	1921	58,000	726
116	Tai An C. S. Co., Ltd.	Hankow	"	1924	24,816	300
117	The Manchuria Cotton S. Co., Ltd.	Liaoyang	"	1924	31,360	504
118	Naigai Wata Kaisha, Kingchow Mill	Kingchow	"	1924	24,000	. . .
119	The South Manchuria C. S. Co., Ltd.	Dairen	"	1925	18,816	. . .

*Registered at the British Consulate General, Shanghai.

†Including Looms not yet operating, as follows:—

No. 16 Wing On, No. 1	300
No. 46 Yu Yuan	1,000
No. 55 Cheng Huan	250
No. 72 Kiu Hsing	300
Total.	1,850

SUMMARY

DISTRIBUTION OF SPINDLES AND LOOMS

	Spindles	*Looms*
Chinese	2,099,042	14,735
Japanese	1,351,704	11,994
British	161,860	2,562
Total	3,612,606	29,291

THE SHWE DAGON PAGODA AT RANGOON, *with the exquisite lacquered shrines leading to it. The entire pagoda from the upper base to the tip of the spire, a distance of nearly 200 feet, is sheathed in pure gold.*

INDIA

Generalization with regard to Japan's cotton textile industry is not difficult, because the industry is uniformly organized under the management of a comparatively few able men, all of one nationality. It is more difficult in China because there the mills follow three systems of management, Chinese, Japanese and British, and their organization is not especially coordinated. But generalizations with regard to the cotton textile industry of India must be to a large extent inaccurate and misleading, for Indian mills are not only under the ownership and management of different nationalities, but also of different sects; and in each there is close adherence in both organization and managing policy to the customs and even to the religious tenets of its particular sect. What is true of one mill or group of mills is often not true at all of another, and the variations may cover a wide range.

Thus even in the matter of wage scale in India, while one may strike a general average, the scale of wages paid in the mills of one section may differ so widely from those paid in another locality, for the same class or quality of labor, that a discussion of the average between them is meaningless. For example, the Sassoon group of British-owned mills in Bombay pay a wage scale reported to average at least 50 per cent higher than is paid in many of the Indian-owned mills in other parts of the country. The wage scale generally in Up Country—which usually means anywhere distant from the Bombay Presidency—mills is nearly always lower than in the mills around Bombay, while in all sections native-owned mills are reputed to pay less for labor than British-owned mills, though this could not be definitely confirmed.

There is also a great diversity in the equipment and efficiency of Indian cotton mills. The Monogram Mills of Ahmedabad have a reputation throughout India and even in Great Britain for ranking high among the best in the world. Some of the Parsee-owned mills around Bombay are models as to plant and equipment and the benevolent policies pursued by their owners. In South India, particularly in the Madras Presidency and the native state of Mysore, the cotton mills are reported as enjoying a high reputation both for quality of output and efficiency in management. In contrast to these highlights of the industry, it is undeniable that in a majority of the small mills throughout the country, and in a good many of the larger mill organizations also, wages and labor alike are of an extremely low standard. The equipment in these mills is sometimes elaborate, in others inadequate and neglected, in all of them it will be found that mill management is largely of the hit-or-miss system.

Extent of India's Cotton Textile Industry

If estimated by the number of spindles, the cotton textile industry of India is about two and one-half times the size of China's, and about one-third as large again as that of Japan. In round numbers the figures are:

	Average Number of Mills Working	*Average Number of Spindles*	*Average Number of Looms Working*	*Average Number Millhands Employed*
India	344	8,800,000	175,000	347,000
Japan	245	6,350,000	75,000	161,000
China	120	3,600,000	30,000	241,000

Thus it is apparent at a glance that India's cotton textile industry is of much larger proportions than we generally suppose in the West. This table, moreover, offers another interesting suggestion. It discloses that in India the average number of laborers employed is 1,000 per mill; in China the average number is 2,000 laborers per mill, while in Japan it is about 650, although the total output of the Japanese mills is greater than that of either India or China.

Recent Conditions in the Mill Industry

In recent years, due to the general strike of mill operatives throughout the country in 1928 and 1929—partly in protest of the low scale of wages and oppressive labor conditions, but more largely due to Communistic agitation—all the Indian mills have been hard hit financially. But it would be a fallacy to say of all of them that they have been therefore placed in serious financial straits, because a large number of them during and after the World War made, in the language of one of their proprietary managers, "scads and scads of profits." Even during the depression which followed the post-war boom, well-managed cotton mills in Bombay and a good many of the mills situated Up Country were able to earn very satisfactory profits and to give a reasonable return to their shareholders. But there were many mills whose profits during prosperous times were frittered away by large dividend distributions and in other extravagancies. Where the mill profits of the war and post-war booms have been dissipated, or put into unnecessary extensions of plant and equipment, the ensuing lean times have been severe on the stockholders. But in numerous instances good dividends have continued to be paid out of wisely hoarded reserves, and in only two or three out of the last seven years has there been a failure to make some money.

Moreover, in the phraseology of the mill owners themselves, they have succeeded in "getting their labor forces licked into shape," by granting them many of their demands and by inaugurating a more enlightened and sympathetic policy toward them. I found among the leading mill men of India a general belief that, barring extraordinary political agitations engendered by Communistic agencies, or a sudden swing toward the anti-government campaign of Mr. Gandhi,—to which the Indian mill operatives up to the time of this writing have been extraordinarily apathetic as a class,—they are not likely to have any more serious difficulties with labor, at least for some years. Considering this, and the probable effects of recent increases in the import tariff schedule, they asserted their belief that the Indian cotton textile industry stands today on the threshold of the best period in its history. They see the opportunities for an expansion in domestic production of at least 1,000,000,000 yards per annum, in grey piece goods alone, to meet domestic demand.

New Tariff Enactments

The termination of the general strike which restored the great majority of the older, more skilled operatives to the mills, and the enactment of the new tariff legislation, are undoubtedly the two most important happenings in the Indian cotton textile industry within the past year. Assuming as a fact that labor conditions have been stabilized, this fact in conjunction with the increased tariff on imported cotton goods gives to the Indian mills an unapproachable position in their home market, a position

Railway Yards on the Wharves at the Port of Karachi, India.—*Note in the centerground the cars loaded with modern machinery.*

Nevertheless the East Changes.—*The new docks and crane equipment of the Port of Karachi, India.*

which it is doubtful if even the Japanese can seriously threaten. The first enactment of the Legislative Assembly in the early part of 1930 raised the duty on imported cotton piece goods from 11 per cent to 15 per cent ad valorem, operating from March 1st. Subsequently, on April 2nd, the Assembly passed, over the strenuous objections of its Nationalist members, the Tariff Amendment Bill, providing an increase in the duties on cotton piece goods NOT OF BRITISH MANUFACTURE as follows:

(*a*) plain grey, that is, not bleached or dyed in the piece, if imported in pieces containing any length of more than nine yards which is not divided by transverse woven headings;	Ad valorem 20 per cent, or 3½ annas (8 cents gold plus) per pound, whichever is higher.
(*b*) All others	Ad valorem 20 per cent.

The term "plain grey," as applied to piece goods, covers all goods classed as such in the Indian Sea-borne Trade Returns, of which grey jaconets, mulls, long-cloths, shirtings, sheetings, drills and jeans are the principal headings. The grey dhutis, saris, scarves and chadars with woven headings are not included. Plain grey remnants, or fents, above nine yards in length, are included, however, and liable to the specific minimum.

Interpreted, this legislative enactment means a minimum of 20 per cent ad valorem on all non-British cotton textile imports, 15 per cent on British textile imports, and an ad valorem 20 per cent, or 3½ annas—a little over 8 cents gold—per pound, whichever is higher, on the grey piece goods of other countries.

Effects of New Duty

It is hard to see how this can mean other than virtual annihilation, so far as volume is concerned, of all imports of foreign grey piece goods, possibly excepting certain of the finer Japanese grades. The 5 per cent preferential in favor of the products of Lancashire, although put on for a limited term of but three years, met with the bitter opposition of those Indian Nationalists who were without financial interest in India's cotton industry, on the ground that this support of Lancashire's industry came out of the Indian peasant consumer's pocket. But those Nationalists, however Swaraj in their political sentiments, who had their money in Indian cotton mills, secretly favored it, however much they favored also, on the grounds of "the higher policy," the political aims of the Swarajists. For the doubt was very apparent to them whether the 3½ annas protection on India's piece goods could be put through without this 5 per cent sop to Lancashire. It could not be put through if it should fail of Government support. In general, merchants and manufacturers openly expressed their fear that this enactment to their benefit might operate as a precedent for the enactment in future of preferential tariffs on British commodities from which they would not benefit.

When the Tariff Amendment passed in face of the most vigorous protest on the part of the Indian members of the Assembly, the Nationalist leaders among them resigned. Without question this incident incited Mr. Gandhi's adherents to renewed defiance and imbued his program with renewed significance and strength. Immediately upon its passing the Bombay Piece Goods Merchants' Association declared,

"on account of the continued economic exploitation of India under the British Government's policy, and with a view to supporting Mr. Gandhi's movement," a complete boycott on all foreign cotton piece goods for three months.

The boycott went into immediate effect, not only in Bombay, but in Delhi, the capital, Up Country, and generally throughout India. The period of its duration has since become indefinitely extended. The result was in many sections an almost instant cessation of the selling of foreign piece goods. Other foreign commodities shortly became involved, and, in the months that have followed since, its effect upon the export of commodities from other countries to India has been disastrous. Japan, it is claimed, will not likely feel the real effects either of the boycott or of the increased tariff rates for at least another year, however, as the Japanese are said to have already stocks of nearly 1,000,000,000 yards of piece goods in India, with which they can take full advantage of any increasing prices or shortage in the stocks of their competitors.

Reaction of Some Indian Mill Owners

This protection is considered by the Indian Government sufficient to enable the underdogs in India's cotton mill industry to place their finances on a sounder basis, upon which to meet the competition of their better-organized and better-managed competitors. Some of the mill owners, however, frankly feel that there is no limit to Santa Claus' bounty and are already laying plans to ask for more. One of the foremost Indian mill owners proclaimed himself an ardent Nationalist, but explained to me that India's cotton textile industry could not prosper, in the face of foreign competition, without Government aid. India, he said, consumed 3,600,000,000 yards of cotton piece goods annually, and produced 2,700,000 yards. But she imported 1,900,000,000 yards, which made a supply of 46,000,000,000 yards against a consumption of but 36,000,000,000 yards. Imports, therefore, must be reduced by at least 1,000,000,000 yards, and even the new tariff was not enough. Naturally, he said, the Indian mill owners, as well as their English competitors, were pleased with the slight economic advantage the new tariff afforded them, although the Indians could not overlook the possibly serious political effects it might have upon the future of their country's industries. However, to become prosperous (!) and continue so, the Indian cotton textile industry would have to be protected by at least a 25–30 per cent ad valorem minimum duty, and not less than 4 annas (about 9¼ cents gold) per pound on grey piece goods. My informant was my first contact with a native cotton mill owner, and as he was a man of great wealth, a highly cultivated Hindu of the Mahratta caste, educated at Oxford, I was especially interested in his point of view. His own mills, as well as his jute interests, are among the largest in India, and I was much gratified that he should consent for me to visit them. With a mill owner of such character and intelligence, I would naturally expect a plant that would be at least typical in management, equipment, labor situation, and output, of India's better-class mills. He told me that at present the Up Country mills of Calcutta, Cawnpore, Agra, Delhi, Ahmedabad, and the mills of South India were the best and most prosperous, though neither they nor the Bombay mills could make any money because of foreign competition and their difficulties with labor. He expressed real sympathy that I should feel obliged to have to go through the disorganized and badly directed mills of Bombay. Of his own mills, he said that while

they were suffering from the unsettled times and the necessity for continuing the use of a good deal of old machinery, they were at least superior to mills on the Bombay side.

I mention the opinion of this highly educated and intelligent Indian industrial prince merely to emphasize the point that, in India itself, knowledge of the actual conditions existing in the Indian mills is not accurate, even among some of the leaders. For the conditions I encountered were precisely the reverse of the conditions he mentioned.

Mill A— TECHNICAL DETAILS

My first Indian mill, located in the vicinity of Calcutta, was one of a combine in which there are 10 mills. This one was equipped with 68,000 spindles and 1,850 looms, all plain but one old Stafford automatic. A great majority of the looms were old, but there were 400 new looms modeled after the Northrups, and made locally for the mills by the Angus Company. There were also a good many Platt, 1927, looms. They work over 5,600 employees, of whom only 400 are women. This mill works in two 10-hour shifts, and 60 hours per week is the limit for millhands. The day shift consists of 3,750 hands, the night shift being smaller. Men and boys do all the spinning and weaving, the women being nearly all employed in the winding and reeling rooms. This is one of the comparatively few double-shift mills, the tendency in India being, especially in the British-owned mills, toward the single shift 10-hour day, or 60 hours per week. Throughout the Up Country regions there are more double-shift mills than in the main centers, but I was told subsequently in Bombay that it was possible that the present tendency would change and that a great many more mills would be on the double shift in the future, with possibly shorter hours.

These mills employ one hand per spinning frame, drawing frame or slubber. One man handles 1½ to 2 looms, and they have one man in care of each 2 cards.

I learned subsequently that the rule with cotton mill labor in India is one hand to one spinning or drawing frame, generally, irrespective of the number of spindles. The workers in this mill, as in most others I visited, were lean of frame and appeared nimble of hand; it was apparent they could easily have taken care of more, but they won't. One frame is their job, as they see it, and that is all there is to it. They cannot be persuaded by any exhortation, ambition, or opportunity of increasing their earnings. Rather, efforts of persuasion or argument only settle them more defiantly in their attitude. It is brought about largely by their inherited attitude as the result of caste, either religious or local. In one room, or section of a mill, all the workers are generally found to be of the same caste or from the same village. They either refuse or do not work well with outsiders. When urged to take on more work and earn more money, their reply is:

"But, sir, if I do more work that will leave less for my brother. It is not right that I should have plenty and he should starve."

From this immemorial position they will not budge. It is one of the reasons why India progresses so slowly, both socially and industrially. It is one of the difficulties in the way of raising the standard of living among the Indian population. It is one reason why India is a more fruitful field for the inculcation of Communistic propaganda than China, where every man is an individualist and extends his humanistic interests no farther than his family. Yet it would be a mistake to ascribe this attitude of the Indian villager to any such spirit of "brotherly love" as is understood in Christian tenets. It is with him a habit of caste, and a result of an age-long system

of communal life that the difficulties of existence have so long enforced among India's poorer classes.

In this Mill No. A, they were spinning 12s, 16s, 20s, and up to 40s; they had tried 60s unsuccessfully. Their output was a coarse, poor grade of sheetings, shirtings of plain weaves, dhutis, and some striped shirtings. They said they were prepared to make a cloth of any design or construction upon order. They had an adequate dye plant of rather primitive equipment in which they did their own bleaching and dyeing.

Much of their machinery is old and some of it of an obsolete type, but most of it would be good enough if it were kept clean and in repair. But on the spinning and drawing frames I saw any number of rollers with felts worn uneven, matted and dirty, and out of line; in very bad condition indeed. There were many thread breakages, many spindles idle. In the weaving sheds the cloth was full of neps, very leafy, and there were an extraordinary number of seconds, the imperfections due to the weaver's ignoring of broken threads.

The one foreigner employed in this mill, a Lancashire man doing duty as superintendent, engineer, and manager, admitted that he was sometimes discouraged. Much of the machinery that was obsolete he had been trying to replace with modern machinery. He had built up a new power plant, had succeeded in getting a considerable amount of modern machinery, and claimed that he was doing his best to build up a good mill. Frequently, however, he said he was helpless in the face of the caprices of the Indian stockholders, whose nepotism and extravagant ideas counteracted every improvement he attempted. Jobs had to be found for all the "relatives," whatever their capacity. He admitted, what was apparent, that the labor was badly directed, shiftless, and unbathed.

"You can't fire these people," this superintendent said, "else the whole mill would go on strike."

Everywhere it was apparent that there was little or poor supervision, and an entire lack of discipline. Empty spindles and loose reels or bobbins rolled about underfoot, waste and spool boxes were piled in heaps, while the basket boys, and even some of the older millhands, gathered in groups chewing *bhang* and *chunam*. Overseers, Mahrattas mostly, strolled indolently about, drawing Rupees 150 per month.

This mill claimed to use all Indian cotton, of mixed Bengals and Oomrahs up to 30s; beyond that they mix, "a little," that is, 5 to 10 per cent, Kenya cotton. They were spinning warps 24s, 30s, and 40s; filling, 21s and better; also some 14s warp and 16s filling. They had 12 slashers, more than necessary, 4 of which were new and 8 out of date. They claimed to load their cloth with filling to about 20 per cent by weight, but it looked to me loaded with all it could carry; the weaving shed, floors and looms were thick with what had shaken free.

Wages:—The women earn 14–15 Rupees per month, or $5.18 to $5.55, spinners average $1.85 per week. Weavers go much higher, up to Rupees 40, or $14.80 per month. The daily wage earners average 12 to 14 annas per day, say $6.50 to $7.20 per month. Strippers get Rupees 16 to 18 per month; lap carriers, Rupees 15 to 16; women doffers, Rupees 14; roving and drawing tenders, Rupees 15 to 20; mule spinners, Rupees 24–8–0; men reelers, Rupees 15 to 20 per month.

They are building coolie lines at this mill in the hope of retaining their labor, all of which is recruited from Mahratta villages. I could not imagine a crew more clannish and unsatisfactory. As the superintendent explained, there was no compensation or satisfaction in firing them, only needless dispute and trouble, and if you fired a man the whole gang quitted.

I had the thrill of a discoverer in this mill. Going through the cloth room I came upon a pile of sheetings headed "Blank Cotton Mills," and right beneath

Cotton Cultivation in the Punjab

Cotton Pickers *in the Indian cotton fields do not greatly differ from our Southern cotton field hands, except in the draped cloth over head and back worn as a protection against the sun.*

it the familiar dragon that made American piece goods famous throughout Asia more than a quarter of a century ago. He had changed color from blue to violent red, and he was smeary, but unmistakable. He had also changed his habitation, for now he was on a piece of Indian cloth, 40″ sheeting of 24s by 21s, a coarse construction, say about 44 square. I had been looking for imitations of American "chop" or trademarks all through Japan and China, and never came across one; but there it was. I did not come across another throughout India and I am willing to believe that the superintendent and owner of this mill were unaware that its use was an infringement, although *somebody* knew it, for the imitation was too perfect to be anything but intentional. It was irrefutable evidence that at least to some extent valuable foreign trademarks are imitated by some of India's cotton textile manufacturers. Of course the really better class of mills are above any such conduct intentionally, and doubtless Justice, even in India, would restrain the less scrupulous if brought to its attention.

In the way of employee-benevolence, this mill has established a fairly creditable shelter, or what they call a *crèche*, for the care of infants whose mothers are at work in the mills, and a hospital which was new. The *crèche* was in a compound in which there were a good many trees to protect the little naked and whimpering babies from the sun, but not from the flies, and a qualified nurse was in charge. But the hospital—from the Western standpoint,—what a hospital! Four walls, open to the intrusions of a flock of goats and the opulent cow, flies and mosquitoes swarming about the poor patient (there was fortunately only one when I was there) who lay naked upon a charpoy, or bed strung with rawhide. There were no floors, no furnishings nor conveniences, no fly screens, no ice or ice water, no pretty nurse to hold his hand. Perhaps the cows, being sacred, did no harm, to the sick man, but I should not have cared for the goats. Nevertheless, one must give this mill credit for having made a beginning. I saw no other evidences of a mill hospital in India.

Cawnpore Mills

My time in India being limited, I could select from Up Country mills but one more for inspection, and chose that one at Cawnpore, one of the larger cotton mill centers of Central India. This was a British mill, and, contrary to the idea they had given me in Calcutta—that Up Country mills were superior in production efficiency to Bombay mills—the manager said he only hoped that some day the five mills under his direction would approach the average of Bombay's better grade mills. They had been pretty well run down and had been taken over by his firm only about a year before, and he was having a job.

Mill B—

This mill had 78,000 spindles and 1,000 looms, all plain, varying from 32″ to 108″. They did not concentrate on a few lines, as the Chinese and Japanese are doing; they were making 76 different types and constructions of cloth; striped shirtings; rayon-striped shirtings, very popular in India; dhutis, 2¼ to 2 7/16 yards, with colored and fancy borders, also plain dhutis; fancy 8-harness dobbie cloths; jeans; plain drills and sheetings—in short, whatever cloth the Indian merchant fancies. They employed 3,000 hands, per 10-hour shift, 60 hours per week, working but one shift. Women were employed again only in winding and reeling, while men and boys alone were employed in the spinning and weaving sheds.

Contrary to the almost universal practice in Japan and China, spinners and weavers in Indian mills are all men or boys. It is only recently that a few mills have succeeded, by slow degrees and with great discretion, in introducing a few women into the weaving and spinning sheds. Throughout India the great majority of the mills employ women only in reeling and winding, where they come but little in contact with men. For thousands of years the custom of India has been to keep women segregated, not only from the eyes of strangers, but even from the men folk of their own community, except relatives, as far as possible. The work of women, generally, is confined to the activities of the household, and their participation in industrial crafts has been largely limited to household, or cottage, craft work. The Indian mills, especially those under European direction, regard it as generally advisable that woman labor should be introduced into the spinning and weaving sheds as far as possible, displacing men, because women have been found more docile, contented, and steadier workers. Mill men are agreed, however, that it will be a very long time before woman's labor is likely to be an appreciable factor in India's cotton industry, so deep rooted are the communal, religious, and social prejudices against it.

Weavers and spinners are on a piece work basis: mule spinners average Rs. 40 per month, 4–5 men being employed on 1 mule spinning frame of 780 spindles. Ring spinners, drawing frame, and slubber tenders average Rs. 20–25 per month; weavers, Rs. 45. One man takes care of 1 spinning frame of 168 spindles; 1 hand cares for 1 loom, though sometimes 2 looms; there is 1 hand for each card machine. Card tenders and all hands paid by daily wage average 10 annas—about 23 cents gold—per day throughout the mill. Until 6 months ago the daily wage force was in three grades, and was paid at the rate of 6, or 8, or 10 annas, according to grade. Now all are paid at the top figure, and the mill finds its labor situation much easier. British-owned mills Up Country, this superintendent said, pay slightly better wages than Indian-owned mills, but get more efficient labor. One has to be very patient with this labor, however, he said, or it quits upon the most trivial provocation.

Spinning efficiency averages 62–54 per cent; weaving, 70–80 per cent. This mill uses 50,000 pounds of raw cotton per day. The superintendent showed me in his godowns or warehouses a stock of 19,000 bales of raw cotton. They frequently have on hand a much larger supply than that, as they often buy a year's supply ahead. They have their own dyeing, bleaching, and finishing plant, which had a very good appearance and looked to me well equipped. They have a huge plant for the recovery of waste, which they make into blankets, carpets, or dhurries, cleaning cloths, towels, and the long narrow strips which the Indian military use to run through their rifle barrels. They couldn't or wouldn't tell me their per loom, per shift production, claiming they didn't reckon production by yards or pounds of cloth, owing to the many diverse sizes and construction. But they reckoned efficiency ratings, i.e., by pounds of yarn to raw cotton, pounds of cloth to yarn supplied. Yarns spun are from 2s (waste) to 24s, mostly plain sheetings 19s warp, 21s to 24s weft, construction 52 x 56. The superintendent reckons he can cut his invisible waste from 5 to 2 per cent and increase his production by 10 per cent with his present labor force within the next six months. He has 20 British assistants, Lancashire-trained men, as foremen, etc.; and considers the superior supervision they give their labor force the main factor in the superiority of his mills over neighboring Indian mills.

This Cawnpore mill was fairly clean, very well lighted, and aired, although a huge four-story mill, with the weaving sheds on the top story built Japanese fashion. The machinery was run at a high speed, 108″ looms at 156 picks per minute, narrow looms averaging up to 220. The labor looked busy and deft, superior to average

Indian Cotton on the Way from Farm to Mill

Members of the Bijapur Cooperative Society Offering Their Cotton for Sale, Bombay Presidency

Chinese labor, not at all shiftless like in the mills in Calcutta. Considering that the temperature was 114 in the shade, the interior of the mill was not so oppressive as I expected. The humidity of but 20–25 has to be artificially induced by hanging mats of an unique kind of grass in the windows, constantly wetting them and having fans from the inside suck in the moisture. Humidifiers are useless.

There were no coolie lines here, as there are not in most Indian mills, and no beneficences to the hands, which is also not yet customary. However, they are coming to it. The labor force of this mill has been recruited for forty-five years from the same village populations. These have now become a part of the local city population, thus insuring steadier, more skillful labor. But the mill bosses realize that before a really dependable supply of trained labor can be assured to India's cotton mill industry, it will have to be provided with homes and placed more directly under supervision.

This mill, I was given to understand, is typical in a general sense of the other mills in Cawnpore, though I had no opportunity to go through the Muir, nor the Elgin, nor the Swadeshi (Indian, and very Nationalistic) Mills. This latter is a small fine-count mill, making 40s to 60s yarn, owned entirely by Indians, with their main mills at Sholapur. All through Central India at every railway station my eye was attracted to huge signs and posters spread over the walls. They were headed:

*S W A R A J ! ! !

Patronize Swadeshi, Satisfactory Cloths!
Comparatively Cheap Prices
Patriotic Indians Patronize
Patriotic Indigenous Products!
Encourage Indian Industry!

(*) Title given to Indian Nationalists.

Some of these Swadeshi mills claim to spin up to 40s out of all Indian cotton, and I was shown a new staple developed in South India, in the neighborhood of Ootacamund, from South African stock, which they said was the equal in every respect to American Upland Strict Middling, with an even longer staple. Not being familiar with Indian cottons, I was interested to learn the main characteristics of some of the best known staples, and was told as follows:

Uggain —Longer staple but duller than the cottons of Ootacamund and Madura; grown in the Uplands of Central India.

Nagpur —Whiter but shorter staple. Grown in the Central Provinces.

Khanaval, *Okura* } Punjab-Americans, white and dirtyish.

Broach —A white cotton of fine staple.

Dar-Salaam—Cotton brought from Africa and developed in South India. Has the long staple and other characteristics of the best American Upland Strict Middling.

Oomrah —Name given to cottons from several areas of Central India, varying from Gaorani, with staple of over 1 inch and the finest indigenous Indian cotton, to Kandesh which is short staple and little better than Bengals.

BOMBAY'S COTTON MILLS

Bombay centers about it the main cotton textile industry of India, just as Shanghai has gathered in the bulk of China's mills, and Osaka dominates the cotton mill industry of Japan. Bombay Island contains 73 of the foremost Indian cotton mill combines, and the Bombay Presidency contains 130 mills, including the great mills of Ahmedabad, outside Bombay Island. Thus Bombay City, or Island, and the Presidency of which it is the capital, accounts for 203 out of India's 347 cotton mills. The Bombay Millowners' Association includes in its membership the entire 73 combines of Bombay Island, and the published Statement of Accounts of the Association shows that in the desperate year 1928, the year of the general strike, their aggregate losses amounted to Rs. 29,877,920, or a little over $10,000,000. This figure includes, according to their chartered accountants, the usual depreciation on the original block cost, i.e., 2½ per cent on buildings and 5 per cent on machinery, electrical installation, etc., together with income tax and supertax, and Workmen's Welfare Expenses paid out of Reserves. All mills in the city and Island of Bombay, with one exception, were on strike from April 16, 1928, to October 6. This simple statement is sufficient to clarify the Bombay mill situation during those parlous days which extended well into 1929.

Hospitable and Helpful Mill Men

I have never met more hospitable nor helpful people than the cotton mill men, particularly British, of India, and if any of them objected to the inspection of their mills, they concealed it with a most deceptive geniality. From my first contact with Mr. T. Maloney, the very efficient secretary of the Bombay Millowners' Association, I was put in possession of all the information, or channels leading to it, that could be desired.

The Need of Foreign Capital and Management

One of the foremost mill-group managers, a Lancashire man of over twenty years' residence in India, told me that, always barring the political situation—which he admitted to be grave, and seeded with the possibilities of disaster—he believes intensely that the Indian cotton industry is about to enter a period of tremendous prosperity. It would be brought about, he said, in large part by the newly-instituted protective duties, but even more as a result of the ascendancy which the mills have gained, or are gaining, over their labor problems. The last three or four years, he said, had been terrible. It had cost his firm alone £500,000, but now they had got the labor situation licked. Unless Gandhi and the Government — "the weakest institution we have in India"— combine foolishness to bust things up, he didn't believe there would be any serious trouble with labor again for years. He would like to see British, preferably, but American too, capital come into India and buy up all the little, meanly-competing, ill-managed Indian mills and form them into well-managed profitable combines. There was no reason at all, said he, why it should not be done, barring always the complex possibilities lying just under the skin of Indian politics. The American Power Company, having purchased the Tata Hydro-Electric

interests, would, in his opinion, come ultimately to exert a strong influence in the management of the Tata Cotton Mills and make a lot of money out of both enterprises.

Japanese Have No Advantages

The Japanese, in this expert's opinion, would have more difficulty in making a success with Indian mills than they had encountered in Japan or China. They were too far from their home base, and were not sufficiently in touch with the complexities of Indian life and commerce to understand them. Just because they were Orientals, but of a different type, they were less well equipped for managing the Indian than the Western man. The Japanese had every advantage with their mills in China—they understood the Chinese. If other foreign capital should undertake to exploit mills in China, it would find the Japanese most formidable competitors. He didn't believe any outsiders could, in the long run, compete with the Japanese in China. If the British mills there were making money, it was, in his opinion, only a temporary success.

India seemed to him the logical place for British or American capital that wanted to manufacture and sell cotton goods in Asia. The markets of China and India were practically limitless, to say nothing of South Africa and the Near East. Sooner or later the mills in India would be bound to have the advantage of a preferential tariff throughout the entire Empire possessions. The costs of buying or erecting a cotton mill in India were not great, compared with the rest of the world, although land prices were high, especially around Bombay; and while labor costs were sure to rise, the efficiency of labor, due to proper training and encouragement, would keep pace with them. He had only recently tried the experiment of raising the wage scale of all labor in his mill by 50 per cent, and the results had been astonishing. He had been enabled to cut his labor force from 36,000 to 25,000 for his entire group of mills; and in one mill to reduce from 27 millhands per 1,000 spindles to 11½ per 1,000 spindles—with actual increased output and better quality. When all the principal mills in India adopted the New Standardized Wage Scale (see Appendix V), as they were bound to do, and began to look out for the health and comfort of the millhand, to train him, encourage the participation of women, and so develop a steady, contented supply of skilled operatives, a large number of their most serious problems would be solved.

Costs of Building or Buying Mills

The high cost of land around Bombay, said my mentor, was the cause of many mills moving to Up Country cities. Erection of new mills in these regions also resulted from the desire to be nearer untapped sources of labor supply, the interior villages. In Bombay, mill sites cost from 20 to 40 rupees per square yard, while in most Up Country districts good sites could be had for one fifth of these prices, even less. The construction costs of a new mill were reckoned at 1,600 rupees ($592.00) per loom, or 60 rupees ($22.20) per spindle; but many a very well-equipped mill suffering only from poor management could be purchased for 400 rupees per loom. His own company had just purchased three, and if the industry responded well to the new duties, and politics did not intervene, they were going to buy more.

India Still a Market for American Fents and Specialties

American drills and piece goods, he said, were of course done for by the recent tariff enactments, as well as their own high price. Here and there you might continue to pick up a few sales: their high reputation over so many years would still induce those who couldn't bring themselves to buy anything else to pay the price for them. America could still sell fents to India cheaper than any one else, and, of course, certain specialties and fancies. Some of their specialties, however, he could duplicate in his Indian mills at prices that would make you faint! Of course, they would not be as good as the American product, but they were good enough to meet the market demand. You could make anything in Indian mills if you were not too particular about the quality. As a matter of fact, he had bought and refitted one of his new mills for the sole purpose of making certain styled cloths to meet the competition of his friends, the Japanese, on their own grounds, and he had been having a lot of fun out of it as well as profits.

The force and incisive quality of this man's views impressed me no less than his success in mill management. I am willing to call them mine.

Mill C—

Except for the brown, lean and nearly naked labor in this small, clean, and beautifully-ordered mill, I might have imagined myself in an American mill. It has but 25,000 spindles and 800 looms, out of 600,000 spindles and 12,000 looms of the group to which it belongs, but every effort is made to make it a model of its kind. They have been spinning mostly 13s warp and 17s weft, until recently, when they have put a large part of their machinery on 36s–44s, mixing 10 per cent of Uganda cotton with their Indian mixture of Broach and Madura-Ootacamund cottons. Average cotton cloth construction 56–60, weight 13 ½ lbs. per piece. Weavers' earnings average Rs. 60 per month (note 50 per cent increase over previous mills reported Up Country), with 1 weaver to 3–4 looms, as compared with 1 weaver per 1–2 looms in most other mills. Spinners average Rs. 38.50, tending 360–420 spindles, compared with other mills' average of 168 spindles. Drawing and intermediate frame department workers average Rs. 40 per month. Total hands, 1,100, one 10-hour shift, 6 days per week; but are contemplating 2 shifts of 9 hours each, unless Japanese mills are willing to adopt the one-shift policy.

Operators per 1,000 spindles, 11.82; operators per 100 looms, 38.08. Costs of weaving grey drills, 15s average, per 100 yards, Rs. 1.97; grey sheetings, Rs. 1.82. Costs of spinning per pound, 20s, 8.34 pies (just over ⅔ of 1 anna; 1 anna is 2 5/16 cents). Production per spindle, 13s warp, 11.75 ounces per 10-hour day; 17s weft, 7.5 ounces; mule spindles, 5.5 ounces. Cloth production, 32″ looms, 210 picks p.m., 60 yards per 10-hour shift; 50″ loom, 176 picks, 50 yards (all production statements based on 40 x 44 construction); 42″ loom, 192 picks, 55 yards. Spinning efficiency, 90 per cent; weaving efficiency, 80 per cent, coarse counts.

The two main cloths now being produced are the Rajah drill, 30″, 13 ½ lbs. per piece of 40 yards, which is sold to the bazaars at 14 annas per pound; and the Stag sheeting, 36″, 12 ½ lbs., at about 13 annas. Both these cloths were of even construction, clean and well woven, and seemed to offer a very effective opposition in the Indian market to their Japanese competitors.

Out of 100 lbs. of raw cotton this mill reckons upon 82 lbs. of yarn, and but 7 per cent of the remaining 18 lbs. is "irrecoverable waste."

This mill, built in 1870, but with at least one-third of its machinery purchased since 1923, is a notable high type of Indian mill, and its cleanliness, smoothness of operation, the activity of its labor force, is impressive. A few of its features: (1)

Old Court House Street, Calcutta.—*Grosvenor House on left, Office of American Trade Commissioner.*

A Woman of the Country—India—at Her Spinning Wheel

they had Howard & Bullough flat cards, 1929 patent, producing a beautiful, even lap, which are only stopped and cleaned once per 60 hours' operation, as against the ordinary cards which must be cleaned every 2½ hours. A section of 2 men and 2 sliver boys takes care, in consequence, of 36 cards, a high mark for India; (2) they use throughout the spinning frame sheds the Casablanca high-draft system; and (3) in the intensely hot and humid weaving sheds they have small electric fans affixed to the center of every loom frame (dynamos, of course, supplied loom power) to cool the operator in oppressive weather. But the operators would not use them, even when the temperature exceeded 120° F. The Indian workman likes his weather hot, he's so used to it.

Of the total labor force of 1,100 in this mill, 250 are women employed mostly in the reeling and winding rooms, but they are beginning to introduce them into the weaving and spinning sheds also, because of their greater deftness of hand and docility of disposition. But they do not expect to get very far with the introduction of woman labor now. These women earn an average of Rs. 25 per month, and this mill also has some men and boys, apprentices, to whom it pays 1 rupee, 37 cents, per day—an unheard-of extravagance!—as beginners' wages.

Mill D—

This mill belongs to the same group. They had 2,200 looms in one room, mostly plain jacquards, but there were 12 Toyoda automatics, and 10-harness dobbies, using cotton and wire healds (as contrasted with the Japanese mills, which use only wire healds on, they claim, grounds of economy). Loom widths run from 28" up to 100". They were making some 60 to 80 varieties of fancies, some zephyrs and fine stuffs up to 80 x 90 construction, 40s warp, and 60s filling. There are 1 and 2 looms per hand in this mill, and the weavers get Rs. 70 per month, average, due to the skill required in handling these looms. This is probably the highest millhand average paid in India. The 12 Toyoda automatic looms are a new installation, and the manager thinks they are "wonderful." They make Indian dhurries or carpets, blankets, coverlets, lawns, voiles and zephyrs, mostly 40s–60s, 50 x 76 construction, but they use counts up to 80s and double 80s, picks up to 90s. There are no yarns made in this mill; the 1,800 hands are all employed in the weaving sheds.

Mill E—

This mill is devoted to the manufacture largely from reclaimed waste of towels, carpets, imitation suitings, and Government drills of 17½ lbs. for use as uniform cloth. They claim to have beaten out the best American competition for this Government business on sheer merit, with no reference to price. They had 52 plain looms turned into automatics by the use of the Carl Valentin attachment, and one man tended to 8 of these looms, all of which were 90" wide. I was surprised to learn that they run 210 picks per minute.

One of the best mill units I saw in India is owned by a Parsee family. It was designed thirty-four years ago by the present owner, who is a distinguished engineer and philanthropist, and it is his pet. Four stories high, spread over nearly 100,000 square yards of ground, painted red and white, these mills are a landmark for miles. They were the prettiest in arrangement, the cleanest, most highly finished mills I had seen since Japan. Indeed, what one hears about the run-down condition and inefficiency of Indian cotton mills must be seriously discounted as far as the principal mills are concerned. Doubtless it is true of some mills, especially native-owned, of

considerable size, and of a good many more of the smaller mills throughout India; but a great number of the larger mills would do credit to any textile producing country. They told me that Dr. Pearse had characterized the Monogram Mills at Ahmedabad as the best he had ever seen—and he has seen those of Manchester, all the Continental countries, the United States, China, Japan, and where not! I was also told that this mill, next to the Monogram Mills, was the best mill in India, and that money would not buy it. The owners of these mills have a huge pride in them, and the mills made for them throughout the war and post-war years," scads and scads of money."

Mill F—

This mill has 110,000 spindles and 3,116 looms. It employs 4,600 hands, of whom only 600 are women. Like an earlier group visited, they use women only in reeling and winding, where they come in little contact with men, but they are stealthily trying to introduce woman labor into the spinning and weaving sheds. They average 8 cards per man, 168 spindles per hand, 2 looms per weaver. Their looms are all plain, and of all widths between 32" and 100". They are equipped with the owner's own patent dobbie, built for him by Platt Bros., of Oldham, England. They spin mostly 20s, 22s, 24s, but as low as 8½s and as fine as 45s. The wages of the women average Rs. 20 per month; of the card tenders, Rs. 35. The spinners average Rs. 28–30, the weavers Rs. 40–60 per month. The hands employed at day wages average 13 to 15 annas, say from 30 to 35 cents, per day.

They claim to use 62 cattys of 784 lbs. each, say 120 bales of raw cotton per day. Their 100" looms turn out an average of 35 linear yards of cloth per loom per shift; their 36" looms, 60–80 yards, at a speed of 200 picks. They have 1,500 looms in one shed, of light construction similar to the Japanese weaving sheds, and a constant humidity of 80 per cent.

This mill has concrete and cut-stone floors throughout the entire plant, with 36 dynamos per weaving shed, overhead drive, and chequered steel plates over the floor spaces containing the cable runs. Their engine plant is superb, with sixteen oil-burning engines, though only twelve were being used. There is enough machinery, most of it new, for a very considerable expansion in the future, and all their weaving is done on electric power from one of three turbines. I noted only two possible weaknesses: (1) they have more machinery, modern, new machinery—some of the owner's own patent—than can be economically used at present; and (2) although the labor force appeared better managed and kept more steadily at work than in most other mills, there seemed to me too much of it. They explained, however, that they were working now with an eye to the future. They were endeavoring to develop special labor communities, and to so provide for them that they could always be assured of a trained supply.

Mill G—

Another group of mills visited, managed by the owner in person, also a Parsee, gave me some interesting figures. The mills were small, of but 35,000 spindles, 828 looms, and employ 1,500 hands. All the management, including overseers and foremen, is Parsee. The entire mill is driven by electric power supplied from the Tata Hydro-Electric group. They employ 165 women, they have 9–10 cards per card tender, 2 looms per man, and only 1 spinning or drawing frame per man, no matter how many spindles. The weavers average Rs. 50 per month; spinners, Rs. 30–35; card tenders, Rs. 28–30; women winders and reelers, Rs. 20–22. No women are employed under the age of 15, and they are especially devoting themselves to maternity beneficence.

They claim a loom efficiency of 80 per cent, spinning and carding efficiency of 90–92 per cent. Average production of 15 ½ lb. grey piece goods, and all other, 50–55 yards per loom, per shift. They spin 12s, 14s, 24s, up to 30s, and use only Indian cotton. They claim to produce not so many lines as other mills, spinning mostly drills and sheetings of sley 36, 48, and 52; picks 32 and 48.

This mill is thirty-four years old and until recently has been well kept up. Formerly they only spun yarns, and these solely for sale to the China market, but they have introduced looms and weaving in the past five years, and, says the owner, *have not lost money a single year*. Wages are 25–40 per cent lower in this mill than in some of the Bombay mills previously visited, and I should estimate its efficiency at about the same figure.

Mill H—

A well-known American economist, Mr. John E. Orchard, of Columbia University, has recently visited these mills and obtained complete figures of their production costs, overhead, etc., which he intends to use in an exhaustive critical and comparative study of cotton cloth manufacture in the United States, Great Britain, Japan, China, and India. It should be a study of extreme interest to all men engaged in cotton textile production.

This mill has 63,000 spindles and 1,800 looms. All of its departments are built in the Japanese single-storied shed style, and it stands on forty acres of land recovered from a swamp. The cost of reclamation was a mere nothing, they said, compared with the value of the land at present. They admitted having passed through hard times, caused by the strikes of 1926 and 1928, and that they were having great difficulty in controlling their labor now. All managers and executives are Parsees, and it occurred to me nepotism possibly had a good deal to do with the conditions I found.

This is a "fuzzy" mill, with scores of sweepers wiping about on the floors, not earning the single rag they wear; millhands idling about on the boss' time, and not giving a hoot; only a fraction on piece-work basis; the several castes carefully separated, and one had a sense of nervous tension between them. At least one-fifth of the male hands were out in the compound at the drinking hydrant, or squatted in groups chewing betel at the hour of my visit, 8 A.M. Inside, the workers seemed hurried, but confused and clumsy. Some workers at difficult tasks—such as women at the Universal winding machines handling dyed yarns—were huddled off in a dark corner, where it was impossible for them to see, even though straining their eyesight to ruination; and their frequent errors were more due to the poor management than to their inefficiency. There seemed an unnecessary amount of machinery for the size of the plant: 15 Platt slashers and 92 cards. They claimed the ideal proportion is 1 slasher per 150 looms, but the Japanese at least do a lot better without claiming to approach the ideal. Of course, this mill spins a good many 6s and 8s, but their average warps are 32s, wefts 20s–26s, while they spin up to 36s–40s—using all Uganda cotton for the fine counts (so they claim), unless their base cotton is Punjab-American, which they strengthen with only 5 per cent Uganda.

At this mill they said they sized their cloth up to 25 per cent, by weight, bleaching at 12 ½ per cent, and retaining an effective 8 per cent delivered at the bazaars. At their Swadeshi mill they load their cloth up to 35 per cent, and 60 per cent, they said, was the common standard in Ahmedabad. Each breaker, finisher, and card is run by a separate motor, to avoid overhead pulleys, etc. The weaving shed, containing 1,800 looms, is divided by a row of 32 horsepower motors down the near-center, from an overhead platform, driving on each line-shaft 36

looms on one side and 18 on the other. With temperature at 92°, inside, they maintain a humidity of 80°, which is rather trying—although nothing compared to the next mill visited.

Their spinners and drawing frame tenders are on day wages; the spinners averaging Rs. 29 per month, the workers on the preparatory machines Rs. 32. Weavers are on piece work and make as high as Rs. 52–56, some even up to Rs. 80, the manager assured me. Women reelers on piece work average Rs. 18 per month; winders, Rs. 22; winding colored yarns recompenses the average worker Rs. 26, or $9.60, per month.

The superintendent told me that he reckoned the idle attitude of the mill workers resulted easily in a loss of 1½ hours per male hand out of each 10-hour shift, and he considered this a general average.

In spite of the ill-management and lack of discipline apparent in this mill, their cloth production was of fair quality. Their loom spread was unusual, 15 to 20 per cent higher than any other in Bombay. The speed of their operations was exceptional: 12,500 revolutions p. m. for spindles; 485 revolutions p.m. of their line shaft; 36″ looms, 225 picks p.m.; 46″ looms, 206 picks; 60″ looms, 180 picks; 70″ looms, 162 picks. Their machinery was of exceptionally good quality.

Should the future of the industry offer promise, it would not be surprising if some British or, even more likely, some American capital group should take over control of these mills in the near future. It would be a miracle if they made any money as they are managed at present. Of course, during the war years and until 1923, this mill, like most Indian mills, made so much money without having to either manage or work, that they still cannot believe Santa Claus is dead.

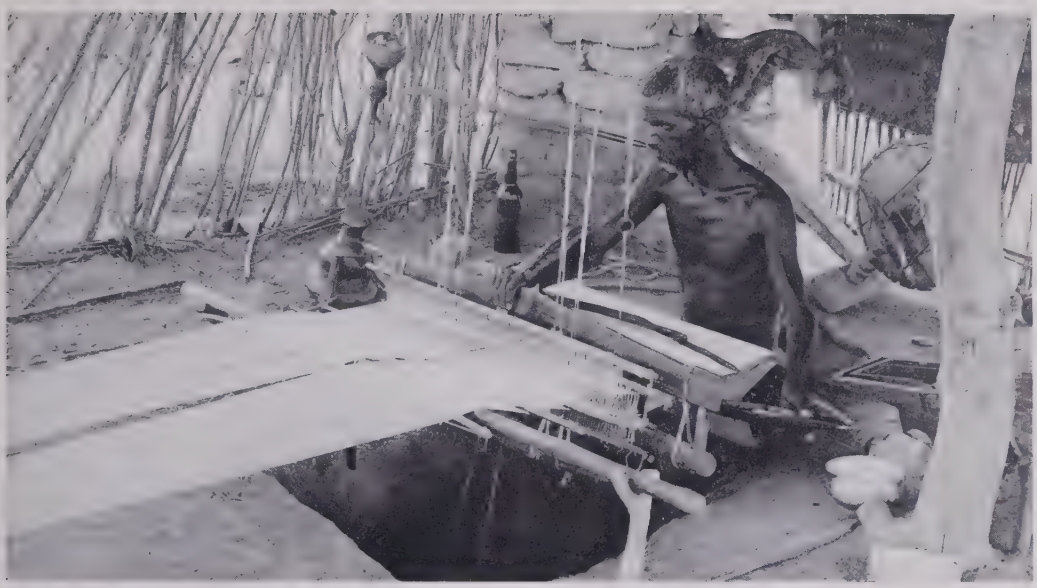
An American View

A prominent American manager of an American industrial enterprise in Bombay explained to me that he would like to see American capital buy into Indian mills—the badly managed or smaller mills of course—and make something out of them. He could see nothing in the way, either economically or politically, beyond, of course, the many complicated conditions that must always exist in India and may occasionally bring about an upset. Capital, however, could not afford, if it wanted to make money, and big money, to be too timid about India. It had to take a chance. Whoever wants to sell in India must manufacture in India. If we don't, the Japanese will. Good mills ruined by poor management, and fallen into the hands of a generation that is not India's best—the sons of abler, harder-working fathers—are not hard to buy, either in Bombay or Up Country, and they are not expensive. In his opinion, the Japanese have no advantages over us in India, rather otherwise. They could not fail to lose some of their Indian trade in coarse grey goods because of the new duty (which he felt was bound to go higher, if or when the Indian Government becomes wholly Indian), and just as surely the Japanese are going to concentrate on new markets in South America.

Management, said this experienced and astute student of business in India, is the sole answer to the failure or success of cotton mills in that country.

Bombay's Japanese Mill

The Japanese Consul very kindly arranged for my visit through the one Japanese-owned mill in Bombay. Widely known as the Toyo Podar Company, this mill had been bought from the former owners, Parsees, in 1926, when the said owners were



A Cotton Weaver at Work on Cloth for Home Consumption.—*Note the difference between the Oriental viewpoint and ours; instead of sitting on a chair, he digs a hole in the ground for his legs. Note also how he has solved the problem of smoking while at work. Observe the bobbin in his left hand and the pedal cords which serve this foot-power loom. Every detail of this picture is interesting as showing that in principle modern cotton manufacture differs little from the primitive forms of our earliest ancestors.*

Dyer's Shop in Jaipur.—*Note the prints on the line made in colors with wooden blocks used like a wooden tamp. It is in such places that the piece goods are dyed to suit the native tastes. Here mostly in red with some yellows and browns and a few blues and greens. The skirts are very voluminous, gathered into a band at the waist. The brass vellers contain the red and yellow dyes. The pipe the man is smoking accounts for the relatively small use of cigars and cigarettes. Fronts of the house closed at night with folding shutters.*

near-busted and disgusted by the strike of 1925. Actually, the Japanese own but three-fifths of it, the remaining stock being still in the hands of the former owners. It is a small mill, with 32,000 spindles, 730 plain looms, and 200 brand-new Toyoda automatics, which 12 mechanics and weavers from Japan, including one woman, were putting into operation for the first time on the day of my visit. The Japanese paid in 1926 for the fully equipped mill, then twenty-five years old, Rs. 1,500,000, and they have since spent Rs. 600,000 in new equipment, repairs, etc., so that their equity now stands them Rs. 1,250,000, and the share of their Indian partners, Rs. 800,000. Rs. 45,000, said Mr. Sasakura, the superintendent, were wasted in installing an overhead pulley system which would have to be torn out. He said (differing a little from his testimony before the Delhi Committee) that due to the immense handicap of acquiring the mill after one six-months' strike, and having two similar ones within the next three years, they had not made much money but they had not lost any. Their net profits would average, he said, around Rs. 15,000 to Rs. 20,000 per month, say Rs. 200,000 per year.

The most interesting statement Mr. Sasakura made was that every cotton company in Japan was watching this mill, and that if it succeeded, Japan would build "many, many cotton mills in India."

The plant covers six acres of land, which leaves plenty of space for a much greater mill, employs 1,200 hands—599 in the weaving sheds and 537 spinners—makes 10 per cent of its yarn for sale to India's village industries, and uses the rest for its own looms. It is abundantly equipped with machinery for so small a plant, having 92 cards, for example, and 32 finishers. They spin from 14s up to 36s, averaging 20s, and only claim a spinning efficiency of 82.2 per cent. The humidity in their spinning rooms averages 55 per cent, and in their weaving sheds 85 per cent, with the average temperature in the weaving sheds at 90°. I found these conditions very trying, and the weavers were one and all in a state of nature, except for one article of clothing which more nearly approximated a "G" string than a garment.

For spinning they employ one man to 2 sides, or 320–400 spindles, in making 17s weft; upon drawing frames, slubbers, intermediates, there is one man to 1 frame; in the weaving sheds one man to 2 plain looms. The strike of 1925, said the superintendent, was brought about solely by the insistence of some of the other mills that one millhand should care for 2 sides of spinning frames and intermediates, and for 3 to 4 looms. Japanese mills in India could not well insist upon a program of this sort, though the workers freely admitted it was within easy range of their capacity, and would bring them more money. The Indian villagers stick together, he said, saying: "It is true we can do twice as much and make twice as much money, but what would then become of our brothers who cannot find work. Must they starve? We would rather do less and earn less, and let them live too."

Mr. Sasakura thought, however, that ultimately the Indian workman would be compelled or induced to at least double the number of machines he now tended. The Japanese mill had already succeeded in training some of its labor until they averaged through the mill 1 man per 16 cards.

Most of their spinners were on piece work (he thought most other mills had their spinners on daily wage) and averaged a daily wage of 1 rupee 3 annas; their weavers earned 1 rupee 14 annas per day; winders, 15 annas; card tenders, 1 rupee 2

annas 3 pies per day. The average daily wage throughout the mill was 1 rupee 8 annas, or 55½ cents gold.

Their averaged loom production for 32″ looms, warp threads 11.95, weft 16.52, averaged 59.4 yards per 10-hour shift; sheetings, 46″ looms, warp threads 13.51, weft 16.52, averaged 52.3 linear yards. Their weaving efficiency was placed at 70 per cent; their average efficiency for the whole mill, 66.8 per cent.

They wrote off a yearly depreciation, the superintendent said, of 4½ per cent.

For handling the new automatic loom they had twelve Indian apprentices in training. These young men had been specially selected, and were much above the ordinary labor class. All were educated, all could speak English, and they were to be assured of a much higher earning power than the ordinary weaver when they had mastered the intricacies of the Toyoda loom.

A well-known Bombay mill man, discussing with me the differing managing policies of the Japanese and British-owned mills in India, expressed his conviction that if the Japanese only allowed 4½ per cent for depreciation, they were not making as much money as they thought they were. In his own mills they allowed 10 per cent for depreciation of machinery, 2½ per cent on structures, and 7½ per cent on stocks and other equipment. They always reckoned a regular net 6 per cent interest on their investment before counting profits. This was something neither the Japanese nor Indian mill owners were inclined to do.

This man told me that he was well acquainted with American mills, and he believed that several of the Ahmedabad mills, which were "the last word" in Indian mill development, were ahead in some respects of any mill in the United States. They worked in double shifts, employed the high-draft system throughout, and ran their spindles at a speed of 14,500 revolutions per minute; but had to borrow money at 9 per cent instead of 6 per cent. This put them under a heavy handicap, until they should be able to raise more capital.

I had planned to visit the highly praised Monogram Mills at Ahmedabad, but unfortunately the day of my proposed visit they were temporarily closed down as a result of some of Mr. Gandhi's activities.

Indian Labor *vs.* that of China and Japan

Before leaving India I was able to obtain a copy of a very interesting statement from the directors of the Japanese mills, addressed to the Bombay Imperial Strike Committee in October, 1928, with reference to the situation in India, which I consider well worth while inserting here, in part. The comparison by experts of certain mill conditions in India with those pertaining to Japan and China, as well as the wage scale and house regulations obtaining in the Japanese mill in Bombay, should be illuminating.

> One of the reasons for establishing our mills was to discover how far it would be possible to improve the efficiency of labor in Bombay, which is deplorably poor compared with that of other countries. However, the past two years of our experience had given us every hope of improvement in every line of our new adventure.
>
> It is regrettable that the general strike has upset everything in our scheme, and it will take a long time to attain again to the improvement achieved just prior to the strike. Before the strike we were very optimistic of labor, but at present we are somewhat more doubtful.

The present dispute was originated mainly from two different principles, viz., for less work and more pay, and the more work more pay principle. The former is the demand of the strikers and the latter that of the mill owners. The three looms and two frames and two sides system (per hand) advocated by one of the Bombay mill combines is an illustration of the principle, and we intend to follow it, as it is quite essential to maintaining the sound existence of our enterprise.

For example: In Japan a good weaver handles 10 looms and the average is 6 looms; average wage Rs. 2/4 per day. In China, she attends 4 looms and earns Rs. 1/– per day, against the Bombay weaver working two looms only at the wage of Rs. 2/– per day. While the efficiency in Japan is 95 per cent, in China and most Bombay mills it is about equal, viz., 80 per cent. Therefore, if we convert these figures into the weaving charge per loom on a basis of 80 per cent efficiency, we can illustrate as follows:

Japan	6 looms x 95%=570%	for wage Rs. 2/4/–
China	4 looms x 80%=320%	" " Rs. 1/–
Bombay	2 looms x 80%=160%	" " Rs. 2/–

On basis of China and Japan, our weavers are entitled to a wage of 10.1 annas and 8 annas only, and are overpaid by 216% and 300% if we continue the two looms system. Even if the new three looms system be introduced, the equivalent wage should be 15 annas and 12 annas respectively, viz., 47% and 37½% of the present wage.

Regarding spinners, we will take the comparison of siders for 20s. In Japan, one sider attends 600 spindles at the wage of Rs. 1/14/6, and in China 380 spindles at 14 annas—production efficiency 90% and 80%—against Bombay Rs. 1/0/0 for 181 spindles—efficiency 80%. Therefore:

Japan	600 x 90%=5,400%	for wage Rs. 1/14/6
China	380 x 80%=3,040%	" " Rs. 0/14/0
Bombay	181 x 80%=1,448%	" " Rs. 1/0/0

Bombay siders are thus worth but 8.17 annas and 6.67 annas only, according to their efficiency, which is now 96% and 139% overpaid. Both spinners and weavers are unduly overpaid compared with Japan and China, and it is very remarkable that weavers' wage is surpassingly overpaid by 120% more and 161% more than that of siders on basis of Japan and China. All other classes of work-people are also similarly overpaid or irregularly paid, and we give the comparison of these wages hereunder:

	Bombay		China			Japan	
	Efficiency per Month		*Ex. @ 175*			*Ex. @ 130*	
Card Tenter	100%	Rs. 26/–	230%	Rs. 20/8	Fixed	200%	Rs. 52/–
Drawer	100%	" 35/–	300%	" 23/–	Piecework	300%	" 51/–
Slubber	100%	" 40/–	150%	" 23/–	"	150%	" 52/–
Inter Tenters	100%	" 35/–	150%	" 24/–	"	150%	" 52/–
Roving Tenters	100%	" 35/–	200%	" 24/–	"	200%	" 52/–
Spinner Single Sider	100%	" 30/–	100%	" 21/–	"	225%	" 48/–
Weaving Efficiency:—							
Winder	100%	" 25/–	140%	" 18/–	"	150%	" 48/–
Warper	100%	" 55/–	150%	" 22/–	"	300%	" 50/–
Drawer	100%	" 51/–	100%	" 21/–	"	100%	" 27/–
Reacher	100%	" 25/9	100%	" 11/–	"	100%	" 20/–
Sizer	100%	" 55/–	160%	" 25/–	Fixed	160%	" 59/–
Weaver	100%	" 50/–	200%	" 25/–	Piecework	356%	" 58/8

As to the efficiency ratio, we are prepared to furnish the figures on your enquiry. As regards wages in Japan, we have added 15% extra to the individual wage which is to be incurred for boarding, recruiting, etc. We are well aware that wages are to be fixed not only by efficiency but also by the cost of living, and other industrial wages of similar character should be taken into consideration. As far as Japan is concerned, the Bombay wage cannot be said to be abnormally high if we overlook the point of efficiency. Comparing with China, Bombay wages are surprisingly high in point of rates and efficiency. What we wish to emphasize is the necessity to raise efficiency to the level which will cope with other countries.

In order to secure real efficiency, it is quite necessary to have labor physically and mentally kept fit. In this connection, there are many things to be done, and we suggest the following:—

(1) Closing of liquor shops in mill area.
(2) Good housing (the reduction of rent of the Development Chawls).
(3) Supply of pure milk.
(4) Compulsory educational system.
(5) Social reforms, such as: prohibition of extravagant expenses for marriage, etc.
(6) Restriction of usury and establishment of a cooperative bank for the benefit of workpeople.

Standardization of Wage

Every page of this pamphlet is fully approved by us and it is our only regret that "Piece work" system is not yet introduced for Spinning. We have already practised it in the pre-strike time and have found the result very satisfactory. Our rates are as follows:—

Doffing Jobber	Monthly income	Rs. 52.86
Oiler	" "	Rs. 31.58
Begaries	" "	Rs. 25.54
Sider	" "	Rs. 26.43
Tarwallas	" "	Rs. 25.54
Doffing Boy	" "	Rs. 21.58

We see no reason why other mills should not do likewise, particularly as it will enhance the efficiency and increase the workmen's income as highly recommended by the Tariff Board.

Standard Orders for Operatives

As the main part of these Orders are similar to those of our rules and regulations, copy of which we beg to enclose herewith, we have no objection to the adoption of these orders and we shall be ready to amend our rules accordingly except the working hours, which we have already proposed to the Bombay Millowners' Association, as follows, by our letter of 19th July, 1928:—

	Working Hours	*Rest Period*
6.00 A.M. to 9.00 A.M.	3 hours	..
9.00 A.M. " 9.15 A.M. Recess	..	15 minutes
9.15 A.M. " 11.30 A.M.	2.15 hours	..
11.30 A.M. " 12.30 NOON Recess	..	60 minutes
12.30 P.M. " 3.00 P.M.	2.30 hours	..
3.00 P.M. " 3.15 P.M. Recess	..	15 minutes
3.15 P.M. " 5.30 P.M.	2.15 hours	..
Total	10 hours	1.30 hours

We are of opinion that in order to enforce strict observance of the standing orders, it would be advisable to see how far it is practicable. *As practised in Japan, workmen can be more efficient with a suitable recess after two or three hours' strenuous work instead of continuous work of five hours.* Moreover, this will obviate the notorious habit of the workmen of loitering about in the compound and cultivate regularity of behaviour.

In continuation of our other letters of date, we have the honour of intimating to you some of the novel working methods which we had already practised in our mills long before the strike and found very useful in result.

1. Badge-bearing system:—

Contemporary with the piece work in the Ring Department we have introduced the giving of a cloth badge to all workmen according to their denomination, so that they can easily be identified for their occupations and we can keep regularity and discipline well in hand. Not confining this system to spinning, we are extending it to all other departments.

2. Thumb-impression on agreement at the time of employment.

From our viewpoint that the terms of employment should be observed strictly, we are not entrusting the engagement to Jobbers or Muccadam; but our Manager, Superintendent and Spinning or Weaving Master are attending themselves to the selection of applicants for the work and after they are approved of, we are getting their thumb-impression on agreement, in order to avoid any possible misunderstanding in future. Of course, we are doing this after making them fully understand our terms.

The use of Knotters in Winding Department: With a view to facilitate work and to save unnecessary waste by hand knotting, we are using Knotters in Winding Department, and we have specially fixed wage at 12 annas per day until they prefer to work at piece-work as before, which rate is 10 annas plus 70% for 100 lbs. Now-a-days, good winders can wind more than 140 lbs. and we are allowing them to work on piece-work which is more profitable for them. We think the introduction of Knotters is quite successful as it will give great benefit not only to winders but also to Warpers, Sizers and Weavers as well, as the small knots in warp yarn are most desirable in these working processes.

Back-garden Ticket System: With a view to check loitering, we are allowing millhands to go to the latrine in the back garden with tickets given by Jobbers only and thus taking its number by each Department. After the strike, they are objecting to this system and it is deplorable that they are inclined to be too much loitering in that place. We think this system must be restored to induce the men to get a good habit.

Diligence Bonus: Any workman under the income of Rs. 70/–, who attends work without absence in a month, is granted a Diligence Bonus ranging from Rs. 1/8– to Rs. 4/– for the purpose of encouraging regular and diligent work. We intend to continue this allowance even after the strike.

Medical Examination: For the sake of public health, we are enforcing medical examination for all workmen when engaged, and physically weak persons are not employed by us.

Statement of New System of Ring Piece-work Effected in Toyo Podar Mills in the Pre-Strike Period

The main object of this system is to ensure good work by cooperation of all members of one party and to divide the income accruing from such work amongst them according to the marks allotted to them on merits.

One party generally attends 12 Frames and 320 Spindles each, i.e., 3,840 spindles, and consists of the following workmen:—

1	Doffing Jobber	allotted standard	mark	each		30
1	Oiler	"	"	"	"	18
1	Begari	"	"	"	"	141/2
21	Siders	"	"	"	"	15
5	Tarwallas	"	"	"	"	141/2
9	Doffing Boys	"	"	"	"	121/4
38						

Production basis:—6.25 oz. per spindle for 20s.
Piecework rate:—Rs. 1–6–6 for 100 lbs. plus 80%.
Ten hours production—1,500 lbs. on 20s conversion.
Total wage:— 1,500 x Rs. 1–6–6=Rs. 21.09375
80% allowance=Rs. 16.87500
Rs. 37.96875

Total Standard Marks 560.25
Rs. 37.96875 plus 560.25 . . . . . Rs. 0.06777 per Mark

For Example:—

Siders wage is as follows:—
Rs. 0.06777 per Mark x 15 Marks=Rs. 1.01855 per day.
Formulas are attached.

Standard Marks—30 Head Doffer, 18 Oiler, 14½ Begari, 15 Sider, 14½ Tarwalla and 12¼ Doffing Boy.

Formulas:—

$\frac{A}{B}=G$ One day's converted production.

$\frac{G \times C}{D}=H$ Rate Value.

$H \times (F \times E)$=Wages of one man, to which 80% should be added for War Allowance.

A . . . . . Monthly converted production of one team.
B . . . . . Working days in a month.
C . . . . . Rate (Rs. 1–6–6) per 100 lbs. on converted.
D . . . . . Total of all these Standard Marks of all men in a team.
E . . . . . Standard Marks of each man.
F . . . . . Number of days a workman is present during a month (plus 50% of the number of days a sider is working as double substitute, i.e., if a sider has attended two sides of a Frame for 10 days in a month he is given 5 full days in addition to the number of days he is present during that month). These additional days apply to siders only.

Standardized Rates of Wages

The Bombay Millowners' Association realizes, as I have been given to understand, that the future prosperity of the Indian cotton mill industry will depend not

more upon import duties, or efforts to combat the intrusion of cotton textiles from abroad, than upon a stabilizing of conditions within the Indian cotton industry itself. One of the foremost problems has been that of getting the millowners to agree to a standard wage that would ameliorate the hard living conditions of the Indian workman, and to get the workmen to comprehend that a more generous wage scale would have to be predicated upon the unassailable *sine qua non* of more work. The Association has worked out a complete system of rates of wages which it considers applicable to the conditions in the industry and just to the demands of the workmen. It is an elaborate scheme worked out in great detail, and was approved by the Millowners' Association on January 27, 1930.

A number of mills have already put this standardized scale of wages into operation, but it has not yet been adopted by all the mills within the Association. It is hoped in time that these rates may be made applicable, wherever they are in accord with local conditions, to the entire cotton mill industry of the country. But the conservatism of India, common to all classes and castes, will make this a slow development. These standardized rates are not even obligatory upon the members of the Millowners' Association.

All rates are based on a full ten-hours' working day for all adult male operatives, unless otherwise specified. Food allowances and existing bonuses have been consolidated in the basic wage, and no bonuses are to be allowed in any mill on the wages given in the list. The wages, as specified, are payable for a month of 26 working days of 10 hours each, and if the number of working days in any month exceeds or is less than 26 days, the wages of fixed-pay workers are to be raised or lowered in proportion.

Piece Goods Prices

In view of the very disturbed market conditions in India during my stay there and the unsettled state of many factors which influence prices, I made no effort to obtain current prices of Indian cloths, except in certain instances where prices and samples were given confidentially. Without samples or full details of yarn composition and construction by which to compare quality and other factors, a mere statement of the prices involved in particular lines of textile production is of little value. However, as a sort of rule-of-thumb indication of ruling prices upon certain lines of grey piece goods, I venture to quote the following, which, in connection with samples, was given to me without restriction as the prices at which the specified goods are sold to bazaar dealers:

Grey M.M. Drill	29½″ x 40 x 13½	lbs.	@	Rs.	9–2–0	($3.37)	per	piece
Grey Drill	29½″ x 40 x 15	"	"	Rs.	10–2–6	($3.75)	"	"
M. M. Sheeting	36″ x 40 x 13¼	"	"	Rs.	9–3–6	($3.41)	"	"
Longcloth Cald.	38″ x 38/38½ x 7¼	"	"	Rs.	8–2–0	($3.00)	"	"
Fine Yarn Dhoty	36″ x 2/9 x 1¼	"	"	Rs.	1–6–9	($0.42)	"	"

Conclusions

India's cotton textile industry is fully alive to its shortcomings no less than to its immense advantages. It possesses within itself, I believe, the capital, the wisdom, and the vitality to expand at least to the point where it need not fear any competition of importance in its home market. The one chance, as I see it, for a foreign textile

industry, such as that of the United States, to participate successfully or in any volume in the Indian market, is through the investment of capital in mills located in India. Already, due to various political complications, and the growing spirit of nationalism in India, there are signs that the Indian population is going to restrict its purchases to Indian products in the future more largely than in the past, wherever that is possible. If, for example, Japanese cotton textiles do not yet greatly feel the effects of the increased tariffs, they can hardly avoid encountering a diminishing market in India when these tariff restrictions come as an accumulation upon a growing demand of India's population for consumption of its own products and an increasing capacity of Indian industries to satisfy it.

I have before me a Consular Report which states that the present political movement in India, with its boycott of foreign cloth, has turned renewed attention to the prospects for producing a greater volume of Swadeshi, i.e., Indian-made, cotton cloth. Indian sentiment, says the report, inclines to the belief that the present boycott movement will perpetuate the preference among Indians for Swadeshi rather than foreign piece goods. Acting on this belief, the Consul says, capitalists of Karachi and Hyderabad (Sind) have in contemplation the organizing of a new company for the erection of a cotton textile mill in Sind. A proposal has been put forward by the managing agents of the Hyderabad Electric Supply Corporation to supply the mill with electric power, but some of the organizers believe that labor, raw materials, machinery, and power can be obtained more cheaply near Karachi. The whole plant is supposed to cost $720,000 for a mill of 16,000 spindles and 400 looms. A still larger Swadeshi cotton mill is in contemplation for Multan in the Punjab, the capital for which is said to be above $900,000.

The British have been watching this situation with the greatest intensity and are engaged in doing everything in their power to check the losses to their cotton textile trade, not only within the Indian Empire, but throughout the whole Far East. As particularly pertinent to the Indian situation, and for the illuminative qualities of both its figures and argument, I attach Sir George Rainy's minute (Appendix IV) to the Indian Government setting forth the reasons for discriminatory tariff in favor of Great Britain's cotton textiles, and Appendix VI, copy of a cablegram from Reuter's Agency, dated July 30, 1930, giving the personnel of the new British Economic Mission to the Far East, in which it will be noted that the cotton section seems to occupy the major place.

Gandhist Demonstrations

Upon the political situation in India as it relates to the Gandhi movement, I reserve comment. Returning from the inspection of mills in Bombay upon one occasion, I encountered a procession, half a mile or more long, of discontents marching along two by two. They carried the usual "Down with British Tyranny" sort of transparencies, and I was told that they were Gandhist adherents; but they looked to me more like sweepings of human derelicts that had been assembled for a demonstration under the promise of a free lunch. They were absolutely quiet until my car came along, and no one of the shopkeepers or other persons going about his business along the streets appeared to pay the slightest attention to them. As I rode by, however, they paid me the compliment of taking me for an Englishman, and greeted

me with what we should term loud yells and cat calls. A few spat upon the ground in front of the car, intending dire insult, but exercising in the act great personal discretion considering its puerility. The whole thing was puerile.

These demonstrations, however, are symptomatic of a very real situation India is facing, and which may break into some kind of revolution. People of twenty years' residence there told me they had never seen India so stirred up. The outcome must, probably, eventuate ultimately in Dominion status for India, or—for an outbreak so serious cannot be ignored by Great Britain, nor fail to result unfortunately for Indians—in a setting back for a considerable period of the realization of their "national" aspirations. Not even the tourist can help realizing that India is not ready now for self-government, of the type to which she aspires, nor that such an undertaking at the present time would harm her peoples as well as injure all the relations and interests built up in her by foreigners and foreign capital. There are a few American women and tourists who are trying to inject themselves into the situation, but with no more result than to get themselves disliked.

APPENDICES TO INDIA SECTION

		Page
Appendix I	Table of Imports of Cotton Goods into India...	124
Appendix II	—Table of India's Trade in Raw Cotton.....	125
Appendix III	—Total Importations of Cotton Piece Goods (all descriptions) into British India in December, 1929.....	126
Appendix IV	—Sir George Rainy's Minute to the Indian Government.....	128
Appendix V	—Excerpt from the Calcutta *Statesman*, April 3, 1930	137
Appendix VI	—Cablegram from Reuter's Agency, July 30th, 1930, *re* Personnel of British Economic Mission to the Far East.....	137
Appendix VII	Current Comments on Cotton Situation in Far Eastern Countries.....	138
Appendix VIII	—Features of India's Economic Situation, by American Trade Commissioner Charles B. Spofford, Jr., Calcutta.....	138
Appendix IX	—Rules and Regulations of the Toyo Podar Cotton Mills, Ltd.....	142

APPENDIX I

IMPORTS OF COTTON GOODS INTO INDIA

(In thousands—000 omitted)

Items and Countries	1927		1928		1929	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
IMPORTS FROM—		Rupees		Rupees		Rupees
Total grey, unbleached:						
United Kingdom . . . yards	641,259	155,006	546,890	130,072	532,036	123,516
China, including Hong Kong . . . . . "	6,794	1,583	5,325	1,182	16,933	3,901
Japan . . . . . "	217,368	55,637	205,974	51,300	373,855	88,088
United States . . . . "	3,065	972	1,516	569	1,065	379
Other countries . . . "	343	81	220	60	793	200
Total	868,829	213,280	759,926	183,182	924,682	216,085
White, bleached:						
United Kingdom . . . "	542,669	148,518	535,040	143,141	445,637	125,453
Netherlands . . . . "	7,638	3,060	8,199	3,185	7,293	2,941
Switzerland . . . . . "	10,082	4,682	11,822	5,238	7,627	3,163
Japan . . . . . "	5,511	1,213	4,318	1,213	8,986	2,269
Other countries . . . "	2,946	1,460	5,937	2,549	7,659	2,851
Total . . . . . "	568,846	159,192	565,315	153,328	477,202	136,676
Colored, printed, or dyed:						
United Kingdom . . . "	335,955	119,657	360,583	131,466	284,986	98,151
Germany . . . . . "	2,559	1,638	2,341	1,668	1,346	868
Netherlands . . . . "	12,113	6,189	10,928	5,416	13,560	6,685
Belgium . . . . . "	1,685	1,411	2,386	1,974	948	853
Switzerland . . . . . "	2,571	1,889	2,881	2,090	1,570	1,088
Italy . . . . . "	23,363	8,150	36,227	12,252	22,490	8,300
Straits Settlements, including Labuan . . "	3,565	1,931	2,375	1,230	1,785	886
Japan . . . . . "	108,684	27,423	96,212	23,708	137,852	32,538
Other countries . . . "	2,936	1,310	4,796	2,368	7,363	3,087
Total . . . . . "	493,432	169,596	518,727	182,171	471,900	152,455
Fents of all descriptions:						
United Kingdom . . . "	12,596	3,951	13,242	4,228	13,347	3,944
United States . . . . "	21,177	4,622	22,961	5,050	22,630	5,181
Other countries . . . "	250	91	574	154	479	155
Total . . . . . "	34,032	8,664	36,778	9,432	36,456	9,280
Total Piece Goods . . . "	1,965,139	550,732	1,880,746	530,113	1,910,241	514,496

APPENDIX II INDIA'S TRADE IN RAW COTTON

Items and Countries		*Calendar Years*					
		1927		1928		1929	
		Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
IMPORTS RAW COTTON FROM—			Rupees		Rupees		Rupees
United Kingdom	tons	1,467	1,204	1,060	1,415	349	468
Persia	"	961	931	527	525	334	335
Egypt	"	547	715	369	847	245	493
Kenya Colony	"	12,386	18,691	14,741	22,345	19,783	29,743
Tanganyika Territory	"	423	623	207	321	298	459
United States	"	62,116	52,322	13,076	15,123	1,701	2,011
Other countries	"	690	767	169	278	776	1,031
Total	"	78,590	75,253	30,149	40,854	23,486	34,541
EXPORTS OF RAW COTTON TO—							
United Kingdom	tons	19,274	18,763	42,450	43,569	44,505	43,009
Germany	"	39,534	36,353	53,321	54,207	63,132	54,912
Netherlands	"	5,834	5,300	7,778	7,647	10,520	9,213
Belgium	"	33,628	32,925	56,277	57,306	64,713	62,673
France	"	23,478	23,411	38,621	38,907	40,283	36,993
Spain	"	10,885	9,905	12,486	12,256	14,577	13,051
Italy	"	53,958	50,826	68,589	67,681	70,484	62,324
Ceylon	"	919	1,045	852	988	1,009	1,139
Indo-China	"	6,828	6,240	4,070	4,309	1,966	1,910
China	"	39,479	40,663	58,301	59,159	81,636	79,354
Japan	"	294,936	294,056	275,911	279,940	293,336	286,140
United States	"	5,620	4,879	6,301	5,964	14,657	12,181
Other countries	"	1,117	1,005	844	792	1,270	1,088
Total	"	535,090	525,371	625,801	632,725	702,088	683,987
(400 pound) Bales		2,998,743	...	3,504,485	...	3,967,691	...

APPENDIX III TOTAL IMPORTATIONS OF COTTON PIECE GOODS (ALL

COUNTRIES	*Grey Plain*	*Grey Bordered*	*White Bleached*	*Printed*	*Dyed*	*Woven Coloured*
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
United Kingdom	3,591,556	39,275,047	23,298,631	7,423,576	5,865,465	2,362,95
Japan	29,878,549	5,098,555	980,340	1,651,757	1,602,191	5,623,04
China (including Hong Kong)	1,471,550	...	...	...	1,824	7,50
United States of America	2,880	...	99,953	1,127	227,816	32,56
Italy	84,459	...	252,343	576,035	213,004	436,37
Belgium	...	...	10,200	...	1,287	37,43
Netherlands	...	...	585,245	71,921	458,767	546,94
Switzerland	...	...	605,717	5,323	32,821	21,22
Germany	...	...	21,667	6,458	14,938	35,09
Austria	...	...	24,948	...	1,462	..
Other countries	2,646	...	29,937	80,276	58,383	7,83
Total for December, 1929	35,031,640	44,373,602	25,908,981	9,816,473	8,477,958	9,110,97
Total for 12 months ending 31st Dec. 1929	433,251,300	491,646,607	477,143,250	209,306,681	145,982,896	116,619,38
Total for year ending 31st Dec. 1928	305,162,185	454,763,505	565,315,412	247,928,197	163,572,827	107,226,33
Total for year ending 31st Dec. 1927	360,568,306	508,260,315	568,846,414	223,601,582	154,558,327	115,280,16

DESCRIPTIONS) INTO BRITISH INDIA IN DECEMBER, 1929

Fents of All Descriptions	*Towels in the Piece*	*Piece Goods of Cotton and Artificial Silk*	*Canvas*	*Total for December 1929*	*Total for 12 Months Ending 31st Dec. 1929*	*Total for Twelve Months Ending 31st*	
						Dec. 1928	*Dec. 1927*
Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
1,025,800	60	580,523	27,204	83,450,815	1,283,849,948	1,472,574,072	1,546,631,172
1,500	...	2,188,239	9,489	47,033,664	537,370,676	308,929,981	333,810,456
...	...	212,808	...	1,693,682	18,216,967	5,651,911	7,225,028
1,316,598	...	...	...	1,680,936	32,713,055	29,674,201	25,032,429
4,695	...	617,887	25,597	2,210,393	36,479,181	59,327,236	38,017,512
...	...	7,692	501	57,116	1,733,819	3,460,916	2,594,075
1,655	...	5,724	2,224	1,672,481	20,997,367	19,237,979	19,840,949
6,796	...	475,190	...	1,147,076	15,518,989	24,394,059	21,513,812
1,040	...	19,985	4,780	103,966	2,571,546	5,980,984	6,997,141
...	...	73,962	...	100,372	4,916,657	5,837,483	2,771,116
...	...	23,084	2,196	204,352	4,237,065	5,771,366	6,293,380
2,358,084	60	4,205,094	71,991	139,354,853	...	...	...
36,456,455	2,151	47,127,494	1,078,048	...	1,958,605,270	...	...
36,777,698	2,903	58,855,322	1,235,809	...	...	1,940,840,188	...
34,032,346	10,976	44,597,642	970,998	...	...	...	2,010,727,070

APPENDIX IV

NOTE BY THE HONORABLE THE COMMERCE MEMBER REGARDING THE PROPOSED DUTIES ON COTTON PIECE GOODS

This note contains a statement of the economic grounds on which the Government of India hold that no protective duty, in addition to the revenue duty of 15 per cent *ad valorem*, should be imposed on goods made in the United Kingdom.

2. The great bulk of the goods imported from the United Kingdom are not directly competitive with Indian-made goods, for they are of a kind or quality not made in India. The following table gives the closest estimate I have been able to make of the quantities of British goods which are in direct competition with Indian goods.

	Competitive (*Millions of Yards*)	*Non-Competitive* (*Millions of Yards*)
Plain grey long cloth and shirtings	45	3
Jaconets, etc.	..	81
Bordered grey dhutis	88	365
White (bleached)	..	525
Printed, dyed or coloured	50	286
	183	1,260

It will be seen that the proportion of directly competitive goods is approximately 12½ per cent of the total. The figures given are for the year 1928–29. The figures for plain grey and bordered grey goods are, I believe, accurate. For coloured goods I have made the best estimate I could. The fact that Mr. Hardy independently arrived at the same figure is satisfactory confirmation.

3. The imports from countries other than the United Kingdom may be classed as follows:

	Imports from Japan		*Imports from Other Countries*	
	Competitive (*Millions of Yards*)	*Non-Competitive* (*Millions of Yards*)	*Competitive* (*Millions of Yards*)	*Non-Competitive* (*Millions of Yards*
Plain grey long cloth and shirtings	207	..	15	..
Jaconets, etc.	..	..	..	..
Bordered grey dhutis	30	5	..	..
White (bleached)	..	5	..	23
Printed, dyed or coloured	86	24	25	37
	323	34	40	60

It will be seen that more than nine-tenths of the imports from Japan and about two-fifths of the imports from other countries compete directly with Indian goods. This estimate is Mr. Hardy's.

4. Since the excise duty was abolished and the Indian industry has received the full benefit of the 11 per cent revenue duty, it has not been argued in any representation put forward by the millowners that British goods were being sold at prices which made it difficult for the Indian mills to compete. From first to last the whole emphasis has been laid on the competition from Japan. In view of this fact, it seems impossible to argue that any protection in excess of

the 15 per cent revenue duty is needed, so far as imports from the United Kingdom are concerned, for if it were needed, the millowners would certainly have asked for it. Chapter XI of the Report of the Tariff Board, in which they review the various suggestions made for assisting the industry, throws some light on this aspect of the case. The competition of British goods is never even mentioned as a reason for granting protection.

5. During the last 20 years the Indian mill industry has made extraordinary progress, and its expansion has taken place almost entirely at the expense of the British industry. During that period the protection given by the operation of the Customs and Excise duties was as follows:

1909–1917	*Nil*
1917–1921	4 per cent
1921–1925	7½ "
1925–1930	11 "

It is true that the development of the Indian industry is largely the result of the war, but since the war the United Kingdom has never been able to regain its old position, and it is Indian goods rather than Japanese goods which have replaced the imports from the United Kingdom. The development of the Indian industry may be illustrated by figures for the imports and production of dhutis, plain grey longcloth and shirtings, and coloured goods.

6. *Dhutis*—

	Imports from the United Kingdom (*Millions of Yards*)	*Indian Production* (*Millions of Yards*)
1909–10	604	250
1910–11	523	252
1911–12	575	268
1912–13	724	291
1913–14	806	285
Average	646	269

		Imports from Japan (*Millions of Yards*)	
1924–25	488	1	458
1925–26	414	14	516
1926–27	441	28	586
1927–28	493	34	616
1928–29	454	35	564
Average	458	22	548
1929 (April to September)	205	24	342

Japan did not enter this trade to any appreciable extent until 1925–26, and even in 1928–29 sent only 35 million yards to India, and it is therefore clear that Indian dhutis have displaced a substantial quantity of dhutis made from the coarser counts and formerly imported from the United Kingdom. The figures for the first nine months of 1929–30 are very significant.

7. *Longcloth and Shirtings*—	*Imports from the United Kingdom (Millions of Yards)*	*Imports from Japan (Millions of Yards)*	*Indian Production (Millions of Yards)*
1909–10	482	..	245
1910–11	462	..	288
1911–12	497	..	313
1912–13	619	3	303
1913–14	540	5	292
Average	520	2	288
1924–25	146	60	526
1925–26	87	84	521
1926–27	71	97	580
1927–28	77	154	620
1928–29	48	191	564
Average	86	117	562
1929 (April to September)	12	149*	314

*Includes imports from China also.

These figures speak for themselves. For the last five years the Indian production has stood at a level almost twice as high as before the war; the British imports are less than one-sixth of what they were before the war; and though the Japanese imports have been increasing rapidly, the British and Japanese imports together are less than two-fifths of the pre-war imports from the United Kingdom alone. The displacement of British goods has been effected to a far larger extent by Indian goods than by Japanese goods. In the face of these figures it seems impossible to believe that against the handicap of a 15 per cent revenue duty, the United Kingdom can ever recover any substantial share of the Indian market for plain grey shirtings. Here again the figures of the first six months of 1929–30 are significant.

8. *Coloured Goods* (Including printed, dyed and woven coloured).

	Imports from the United Kingdom (Millions of Yards)	*Imports from Japan (Millions of Yards)*	*Imports from Other Countries (Millions of Yards)*	*Indian Production (Millions of Yards)*
1909–10	433	..	29	192
1910–11	557	..	31	214
1911–12	554	..	35	253
1912–13	638	1	43	306
1913–14	770	2	59	292
Average	590	1	39	251
1924–25	338	41	28	588
1925–26	267	70	29	540
1926–27	318	86	43	681
1927–28	352	103	50	681
1928–29	335	110	62	487
Average	342	82	42	595
1929 (April to September)	148	78	24	257

Here again the figures show that the United Kingdom has lost 5-12ths of her trade, partly to Japan, but mainly to India.

9. What has been said above is not the whole story about coloured goods, for the export of coloured goods must also be taken into account. The following table gives the pre-war and post-war figures.

EXPORT OF PIECE GOODS, COLOURED, PRINTED AND DYED

	Exports from Madras (Millions of Yards)	*Exports from Bombay (Millions of Yards)*	*Total Exports (Millions of Yards)*
1909–10	22	19	41
1910–11	23	20	43
1911–12	22	18	40
1912–13	25	17	42
1913–14	26	19	45
Average	24	19	42
1924–25	37	98	136
1925–26	43	83	126
1926–27	46	130	176
1927–28	42	107	149
1928–29	41	90	131
Average	42	102	144

The exports from Madras and Bombay have been shown separately because the former are largely hand-loom goods. The point brought out in the table is that since Bombay has been able to export in the last five years five times the quantity of coloured goods which she exported before the war, since these exports go to markets where Indian goods have no customs duty to assist them, and finally since the exports from Bombay amount to one-sixth of the Indian production of coloured goods and to more than one-fourth of the production of coloured goods in Bombay Island, the competition from British goods cannot be so intense as to justify the imposition of a protective duty, in addition to the revenue duty of 15 per cent. The truth is that coloured goods do not constitute a single class of goods like dhutis or shirtings, for the term covers a wide variety of different classes of goods. In some classes India not only holds the internal markets but also exports substantial quantities. In other classes the competition of Japanese goods is very severe. But I cannot recall any class of coloured goods in respect of which we have been told that the Indian product is being undercut by British goods.

10. No similar analysis is possible for plain bleached goods, for the imports from the United Kingdom are woven almost entirely from counts above 50s and no similar class of goods is made in India. The Indian output of plain bleached goods is indeed negligible. On the other hand, there is a substantial output in India of bleached goods with woven coloured stripes but these are classed in the returns as coloured goods and do not compete with imports of plain bleached goods from the United Kingdom. They do compete with imported coloured goods, and have recently suffered from the competition of printed goods from Japan.

11. The final inference to be drawn from all the figures I have given seems to be this. Only about one-eighth of the imports from the United Kingdom compete directly with Indian goods, because in any class of goods which can be made from Indian cotton, the United Kingdom mills have been unable to face the competition of the Indian mills and have been

gradually driven out of the market. They hold their own only in those classes of goods which cannot be made out of Indian cotton. British goods have been displaced by Indian goods during a period in which the shelter afforded by the revenue duty was 11 per cent or less. In these circumstances, it seems impossible, after the duty has been raised to 15 per cent, that Lancashire should recapture the market for those classes of goods which can be made from Indian cotton.

12. It may be urged that a 20 per cent duty on all imported piece goods would lead to a rapid development of the industry, and in particular would bring about a substantial increase in the spinning and weaving of the finer counts made from imported cotton. The answer to this plea is to be found in the Honorable Finance Member's budget speech. What Government have proposed is protection for a strictly limited period with a strictly limited objective. The object in view at the moment is not the development of the industry but its preservation. The continued existence of a large number of the mills in Bombay Island is threatened, and it is only because the danger is so acute that Government have felt justified in proposing a measure which involves a departure from their ordinary fiscal policy. To keep the industry alive during the next three years, what is required is not encouragement to launch out into new forms of manufacture, which involve new equipment and more highly trained labour, but measures which will preserve to the mills the markets in those classes of goods which they are already equipped to produce and for the manufacture of which their labour is trained. Any substantial increase in the production of the finer goods means the expenditure of capital, the purchase of new equipment and improvements in the efficiency of labour, and the three years would be over before much progress could be made. In the opinion of Government, the proper time to consider what assistance the mill industry may require in order to extend its range and undertake the manufacture of the finer goods, of which the present production is extremely small, will be when the Tariff Board enquiry is held in 1932–33. There is no evidence at present that more than 15 per cent on British goods is required in order to permit of considerable progress in that direction. But since the pressure of foreign competition increases with the price of the goods, it is indispensable, if progress is to be healthy, that the efficiency of the labour in the Indian mills should be improved. The inability of many of the Indian mills to face Japanese competition is due to the much higher standard of efficiency in the Japanese mills. If the Indian industry is ever to be established on a sound basis, great improvements are necessary, and if the duties are put too high, the stimulus to efficiency will be removed.

13. It is not argued by Government that the Indian mills would derive no benefit at all from a 20 per cent duty on all goods irrespective of the country of origin. But Government feel most strongly that the benefit the Indian mills could derive from such a duty during the next three years would be small, and wholly incommensurate with the burden imposed on the consumer. Taking the values of 1928–29, an additional 5 per cent on British goods would mean a burden on the consumer of Rs. 2 crores a year. Seven-eighths of this sum would give no appreciable benefit to the millowners because their output of the finer goods during the period must be very small. The remaining Rs. 25 lakhs might benefit the industry to the extent to which Indian goods replaced British goods. But there is a limit to the extent of the replacement which can occur in the next three years, and it is doubtful whether it would proceed more rapidly with a 20 per cent duty on British goods than with a 15 per cent duty. The Indian manufacturer would probably not gain much in the matter of price from the higher duty on British goods, for in those classes which can be made from Indian cotton, the price of British goods is not the governing factor.

14. In order to complete this note it seems desirable to explain briefly the reason for singling out the class of plain grey goods for exceptional treatment. Non-British goods of other classes will be subject only to the protective duty of 20 per cent *ad valorem*. Plain grey goods will be subject also to the minimum specific duty of 3 ½ annas a pound. The first reason

is the magnitude of the Indian production of plain grey goods. The following table gives the percentage of plain grey goods to the total production for the whole of India and for Bombay Island during the last seven years.

	Bombay Island	*Rest of India (including the States)*	*All India (including the States)*
1922–23	51	46	49
1923–24	50	44	47
1924–25	50	44	47
1925–26	52	41	46
1926–27	50	38	44
1927–28	50	39	45
1928–29	50	42	44

It will be seen that plain grey goods represent half the total production of Bombay Island and about two-fifths of the production of the rest of India.

The second reason is that Japanese competition is more intense in this class of goods than in any other. The Japanese imports under this head amount to four-sevenths of their total imports and the growth has been extraordinarily rapid. The third reason is that in this class of goods India is very near the point where she can supply the whole of her own requirements, apart from Jaconets, mulls, etc., which are spun from the finer counts. The annual consumption of this class of goods in India for the last five years has been about 1,160 million yards. The production in India in 1927–28 amounted to 1,159 million yards, while in the following year, when the mills in Bombay Island were on strike, the production of the mills in other parts of India rose from 484 to 577 million yards. We are therefore very near the time when internal competition will suffice to prevent an excessive rise in prices. The case is totally different in respect of coloured, bleached, and bordered grey goods, where India is not in a position to dispense with imports from abroad.

15. The Government of India's final conclusion was that, except in the case of plain grey goods, there were not sufficient grounds for imposing a higher duty than 20 per cent against the goods of any country. But apart from that, there are certain administrative difficulties which would in any case make it impossible to adopt the expedient of a minimum specific duty, except in the case of plain grey goods. The reason is this. Plain grey goods are imported in bales, each containing goods of one standard quality, and an average consignment will have a dozen or more bales containing identical goods. When the importer is in a position to declare the weights it will be possible for the customs authorities to administer the specific duty by means of check weighment of a small percentage only. It will not ordinarily be necessary to open bales, and in weighment due allowance can be made for the weight of the packing. Bordered grey goods, *i.e.*, dhutis, also came in bales, but the goods are not all of one standard quality and it is rare for more than two or three bales to contain similar goods. Moreover, each bale may contain an assortment of dhutis of different qualities and different values and it will be quite possible to pack a bale in such a way that, while the average value brought the whole of the contents within the scope of the specific duty, a considerable proportion of the contents might be of higher value and properly subject to the *ad valorem* duty. To check any tendency of this sort, it will be necessary to open a considerable proportion of the bales, and this is practically impossible without causing extreme delay and inconvenience to trade and depreciation of values. Bleached goods and coloured goods again are commonly imported in cases, each case containing an assortment of different classes of goods. The weight of the cases varies within wide limits, and the value per pound of the contents could not be checked by the mere check weighment of the case with its contents. Before the appraiser could

determine whether the goods should be assessed under the specific duty or under the *ad valorem* duty, it would be necessary to open each case and weigh separately each class of goods which it contained.

16. Four statements are annexed to this note. The first of them shows the imports of different kinds of goods from different countries in the year 1928–29, and the other three give the production for the last seven years of the Indian mills in Bombay Island, in the rest of India and in the whole of India including the States.

G. Rainy,—7-3-30.

STATEMENT I

Imports of cotton piece goods, 1928–29

	Quantity—Millions of Yards				*Value—Rs. Lakhs*			
	From the U. K.	*From Japan*	*From Other Countries*	*Total*	*From the U. K.*	*From Japan*	*From Other Countries*	*Total*
Plain grey—								
Long cloth and shirtings	48.36	191.49	12.17	252.02	121.33	478.66	29.75	629.74
Jaconets	78.50	0.27	0.02	78.79	183.25	0.51	0.03	183.79
Other	1.93	15.34	3.09	20.36	5.01	42.54	9.49	57.04
Total plain grey	128.79	207.10	15.28	351.17	309.59	521.71	39.27	870.57
Coloured—								
Printed	175.10	36.03	33.27	244.40	544.25	89.21	107.62	741.08
Dyed	116.33	23.30	15.95	155.58	424.89	61.00	76.25	562.14
Woven coloured	44.17	50.47	12.31	106.95	230.17	121.07	80.36	431.60
Total coloured	335.60	109.80	61.53	506.93	1,199.31	271.28	264.23	1,734.82
Bordered grey	452.83	34.64	*Nil*	487.47	1,068.50	80.28	*Nil*	1,148.78
White (bleached)	525.36	5.46	23.26	554.08	1,423.36	15.36	94.79	1,533.51
Grand Total	1,442.58	357.00	100.07	1,899.65	4,000.76	888.63	398.29	5,287.68

STATEMENT IIA

Statement showing the mill production of piece goods (in millions of yards) for the seven years ending 1928–29

Bombay Island

	1922–23 Yards (Millions)	*1923–24 Yards (Millions)*	*1924–25 Yards (Millions)*	*1925–26 Yards (Millions)*	*1926–27 Yards (Millions)*	*1927–28 Yards (Millions)*	*1928–29 Yards (Millions)*
Dhutis	102	98	111	115	150	169	86
Longcloth and shirtings	289	279	326	307	374	378	168
Other grey and bleached goods	156	146	168	144	194	197	101
Coloured goods	323	333	381	306	417	387	183
Total	870	856	986	872	1,135	1,131	538

STATEMENT IIB

Statement showing the mill production of cotton piece goods (in millions of yards) for the seven years ending 1928–29

Rest of India (including Indian States)

	1922–23 Yards (Millions)	*1923–24 Yards (Millions)*	*1924–25 Yards (Millions)*	*1925–26 Yards (Millions)*	*1926–27 Yards (Millions)*	*1927–28 Yards (Millions)*	*1928–29 Yards (Millions)*
Dhutis	329	301	347	401	436	447	478
Longcloth and shirtings. .	182	165	200	214	207	242	306
Other grey and bleached goods	214	209	230	233	216	242	271
Coloured goods	130	171	207	234	264	295	301
Total	855	846	984	1,082	1,123	1,226	1,356

STATEMENT IIc

Statement showing mill production of cotton piece goods (in millions of yards) for the seven years ending 1928–29

All India (including Indian States)

	1922–23 Yards (Millions)	*1923–24 Yards (Millions)*	*1924–25 Yards (Millions)*	*1925–26 Yards (Millions)*	*1926–27 Yards (Millions)*	*1927–28 Yards (Millions)*	*1928–29 Yards (Millions)*
Dhutis	431	399	458	516	586	616	564
Longcloth and shirtings. .	471	444	526	521	581	620	474
Other grey and bleached goods	370	355	398	377	410	439	372
Coloured goods	453	504	588	540	681	682	84
Total	1,725	1,702	1,970	1,954	2,258	2,357	1,894

Appendix V

EXCERPT FROM THE CALCUTTA *STATESMAN*, APRIL 3, 1930

Along with the news of the five per cent preferential duty for Lancashire goods comes the announcement of a new move to increase Lancashire's trade in the bulk standard lines. It is announced that a company, called the British Cotton Textile Association, is to be formed with the support of all sections of the trade, including the operatives. The object of the Association is to facilitate and supervise the cooperation of firms in the different sections of the trade, in the manufacture and marketing of standard goods, particularly where the trade in such goods is not being done, or is being lost by Lancashire. It has already been made known that various subcommittees of the Joint Committee of Cotton Trade Organizations are at work investigating specific openings for Lancashire goods in various markets.

The British Cotton Textile Association, it is explained in an official statement, will help to translate the work of these sub-committees into increased trade for Lancashire by bringing it to the notice of those most likely to be interested, and by arranging for the production of chosen cloths by syndicates working under its auspices. In each case the aim will be to secure the economies incidental to mass production and regular demand. The underlying principle of the scheme is the belief that the most efficient and economical way of restoring the former strength of Lancashire in meeting the world's demand for cheap standard goods is to treat all the processes and services involved as parts of a single transaction, beginning with the purchase of the raw cotton, and only ending when the goods are in the final state, ready for the consumer. By directing a definite volume of trade into particular channels, this will help to relieve the pressure of internal competition between Lancashire firms.

Appendix VI

CABLEGRAM FROM REUTER'S AGENCY, DATED JULY 30, 1930

Giving the personnel of the new British Economic Mission to the Far East in which it will be noted that the cotton section seems to occupy the major place.

"The personnel of the Economic Mission to the Far East will consist of Sir Ernest Thompson, Chairman of the Executive Joint Committee of the cotton trade organizations, who will be chairman and who will also be chairman of the cotton section of the mission; Sir Thomas Allen, Vice Chairman of the Cooperative Wholesale Society, Chairman of the Cooperative Insurance Society and of the New Zealand Product Association; Lieutenant Colonel Reginald Morcom, a director of Lloyds Bank; Mr. James Bell, of the United Textile Factory Workers Association; Mr. William Crowther and Mr. Louis Beale, of the Trade Development Council. The cotton section will consist, in addition to Sir Ernest Thompson and Mr. Bell mentioned above, of Mr. F. W. Birchenough of the Operative Spinners Amalgamation; Mr. E. Duxbury of the United Textile Factory Workers Association; Mr. J. Wedmondson of the Federation of Calico Printers; Mr. George Green of the Padisam Manufacturers Association; and Messrs. Arthur Reish and Joseph Wild of the Wigat Cotton Employers Association.

"The terms of reference of the main mission are to inquire into the present condition of British trade with China and Japan and report what action should be taken to develop and increase that trade.

"The Cotton Mission will assist the Economic Mission insofar as inquiries relate to cotton goods and will report what action should be taken to develop and increase British trade in these goods."

Appendix VII

CURRENT COMMENTS ON COTTON SITUATION IN FAR EASTERN COUNTRIES

1. Tokio—*June 26, 1930*

The Japan cotton spinning industry is approaching an unprecedented difficult situation. Most of the companies have settled their accounts for the last term ending April and May, and the results are now being published. According to statistics the average decline in profits for the industry as a whole will approximate 50% as compared with the previous year. Furthermore, the second half is expected to reflect no better results since there is no sign of recovery in the consuming markets. The dividend rates show declines without exception, some of the most noticeable being Kanegafuchi from 35% to 28%; Toyo from 25% to 20%; Dai Nippon from 16% to 13%; Godo from 20% to 15%; Nisshin from 15% to 12%; Fukushima from 30% to 24%; Hinode from 8% to 6%; Kenka from 10% to 8%. The Fuji, Sagami and Asahi companies passed their dividends. The reductions in dividend rates are not as severe as the reduced net earnings indicate, but they have been kept up only because considerably less amounts were placed to reserve than in the previous terms.

2. Tokyo—*June 26, 1930*

The immediate cause of the closing of the Tokyo Stock Exchange for the first time, on April 11th, was the announcement of the Kanegafuchi Cotton Spinning Company of its reduction in wages, which brought about an immediate strike of employees, and, of more importance, led the market to believe, or to anticipate, a reduction in dividends. Inasmuch as the Kanegafuchi Company has always been considered the strongest financially, it was presumed that other companies would immediately follow the example of Kanegafuchi. There was an an immediate over-selling of spinning shares and to such extent that prices were dropping so rapidly that it was deemed advisable to close the Exchange to further trading on that day.

3. Shanghai—*July* 7, 1930

In compliance with a petition from Shanghai cotton merchants the Municipal Government of Greater Shanghai is understood to have submitted a recommendation to the State Council requesting that the Ministry of Industry, Commerce and Labor be instructed to formulate measures for the relief and revival of the cotton industry which has been suffering a tre mendous loss on account of the present economic crisis.

4. *14 Mills to Close August 1st*

Bombay, July 18 (AP)—The disastrous effect of the political crisis on India's economic condition today was shown by announcement that fourteen more cotton mills here will close down August 1, throwing 40,000 workers out of employment.

D. P. Kaithan of the Indian Chamber of Commerce said the only real remedy for the economic crisis was an early settlement of the political question.

Appendix VIII

FEATURES OF INDIA'S ECONOMIC SITUATION

By

American Trade Commissioner Charles B. Spofford, Jr., Calcutta

India's productivity is enormous, and her potential productivity incalculably greater. It must be emphasized that India not only contains one-fifth of the human race but the capital wealth and national income of the country exceed that of Canada and Australasia combined.

The yearly productivity of India is more than 10 billion dollars, or 5 per cent of the world's production. Imports are less than one billion and exports barely exceed one billion, which make it evident that the general well-being of the country is not nearly so dependent on foreign trade as many have represented.

Agricultural production is the basic source of India's wealth, supporting as it does over three-fourths of the population. Over 80 million acres are cultivated for rice, the premier crop and staple food of the masses. Another 45 million acres are cultivated for various kinds of millets, 30 million for wheat, 21 million for cotton, and 18 million for oilseeds. Other important crops grown are jute, sugar cane, tea, corn, barley, spices and tobacco. The production of cotton, in particular, is being encouraged and is increasing. It is the second biggest cotton crop in the world, aggregating 6 million bales of 400 pounds, and by far the most important item among Indian monopoly. Although she imports over $50,000,000 worth of sugar a year, India herself is the largest cane producing country in the world.

India also derives very considerable income from her livestock. The 180 million head of cattle and 70 million sheep and goats bring in a return which can only be estimated. The annual production of milk and milk products cannot be less than $500,000,000. Animal manure, which is used both as fuel and as fertilizer, has been given an annual value of $200,000,000 and bone-manure an additional $7,000,000. The meat value of livestock slaughtered must be worth $125,000,000 and the hides and skins fetch a further $60,000,000.

The general economic importance of India's forests cannot be minimized, for the total area exceeds 100 million acres. The money value of this forest produce is a matter for conjecture as large supplies are given away free by the Forest Department and villagers are also inclined to help themselves to firewood picked up in the neighborhood. The quantities of timber removed from forests by government and private agencies for use as fuel, building construction, railway ties, bridges, ship building, agricultural implements, hand-looms, furniture and ornamental carving may be given an annual value of $45,000,000. The resinous substance, commercially known as shellac, is also considered a forest product which brings in $40,000,000 a year. The production of rubber, myrabolens, turpentine, rosin, sandalwood oil and other essential oils yield a further $14,000,000.

In the matter of minerals India has a fairly generous supply. Iron ores of rich quality are very extensively distributed and the annual output has reached 2 million tons. The production of coal approximates 22 million tons and petroleum, 300 million gallons. Other important industrial minerals include manganese, chromite, wolfram, lead, tin, zinc, mica, magnesite, salt and saltpeter. The production of gold and silver averages $10,000,000 a year.

Although India is overwhelmingly agricultural and will always remain so, it is also one of the seven most important industrial countries in the world. Indian workers in manufacturing industries, mines and transport far outnumber the whole population of Canada. The wealth that India derives from her manufacturing industries is estimated to be nearly $3,000,000,000—about two-fifths of the wealth obtained from her agricultural production. There are 300 cotton mills in the country, with 8 million spindles, 150,000 looms and 400,000 operatives. The 70 odd jute mills have 50,000 looms and employ 300,000 workers. Second only to America in railway mileage, the Indian railways engage 150,000 hands. The iron and steel works, equipped with the finest American plant, have an annual capacity of 500,000 tons of finished steel. Foundries, engineering and railway workshops and ordnance factories are scattered throughout the country. It requires some industry to mill India's 35 million tons of rice and 10 million tons of wheat, to grind out 3 million tons of sugar, press 4 million tons of oilseeds, gin 6 million bales of cotton, press 10 million bales of jute and manufacture 350 million pounds of tea. Other important industries include the refining of petroleum, lead and silver, the manufacture of woolens, paper, shellac, cement, leather, cigarettes and matches, the printing establishments, sawmills and shipbuilding.

Almost every nation in the world is today operating under the protective system, and India is no exception. A new industrial era began in 1921 when Great Britain gave India appreciable control of her own fiscal policy and the right to levy protective tariffs against all foreign goods when the Government of India and the Indian legislature are in agreement. The next year the Indian Fiscal Commission laid down the broad principle that "if certain basic industries are to be fully developed and others with ample opportunities of easy growth to be started at all, a measure of protection to be applied with discrimination is perhaps the only means which might lead to the road to success." In this connection it must be emphasized that India has not yet adhered to the principle of imperial preference. It is true that what amounts to a measure of preference has recently been given British steel and cotton manufactures, but the general conclusion arrived at in a dispatch by the Government of India in 1903 has not been altered, namely, "that from an economic standpoint India has something, though not perhaps very much, to offer the empire, and that she has little to gain by a policy of imperial preference, and a good deal to lose; a good deal to risk."

Customs duties have been levied on merchandise imported into India for centuries, but the rates remained uniformly low until the outbreak of the war and the object was purely revenue. Since 1916, however, unprecedented deficits and financial embarrassments of the Government have resulted in a periodic raising of the tariff until the general rate stands at 15 per cent, while varying protective rates have been laid on certain manufactures which compete with Indian industry. Another important feature which has emerged in recent years has been the tendency to levy export duties on jute, burlap, rice, hides and skins.

The press in India has been so obsessed with the notion that the United States has the highest customs tariff in the world that it will probably surprise many to learn that the incidence of the tax on India's foreign trade is greater than that of America. In the past twenty years India's imports have not even doubled in value but the customs revenue from imports has grown from Rs. 80,000,000 to Rs. 427,200,000, an increase of 580%. During the same period the value of India's exports has only grown by 155% but the customs revenue from exports has increased from Rs. 13,000,000 to Rs. 62,200,000, or 520 per cent. Only 15 per cent of India's imports during the fiscal year ended March, 1930, came from duty compared with 65 per cent so entered into America in 1928 (latest statistics available). Furthermore, the average rate of duty on total imports into India for that year was 17.5 per cent compared with 13.3 per cent for America in 1928. Including export duties, the average rate of duty on India's total foreign trade approximates 9 per cent compared with 6 per cent for America. The per capita incidence of tax on India's imports is about 50 cents as compared with $5.00 on America's imports. But assuming India's per capita annual income to be Rs. 100 or $37.00 and America's per capita annual income to be $1,000, the incidence of the import tax per capita income in the two countries is 1.33 per cent and 0.5 per cent respectively.

The commerce of India has expanded tremendously from the time when merchant adventurers carried on a flourishing trade in ivory, precious stones and spices. Since 1860 the annual value of her imports and exports combined have increased sevenfold, from $300,000,000 to $2,100,000,000. It is a noteworthy fact that this rapid growth in commerce has placed India sixth or seventh among the nations of the world in the value of foreign trade. India is Britain's best customer, purchasing more goods than Canada and Australia combined. The Indian market absorbs one-eighth of the total exports of the United Kingdom. The volume of that trade is still large, but it has declined steadily because the basis of Indian trade operations has broadened. Although British trade with India remains an important factor, its value relative to India's entire trade has lost the exaggerated importance of pre-war years. In the import trade the United Kingdom, responsible for 64 per cent of the total business in 1913, was answerable for less than 43 per cent in 1929. America, by contrast, now enjoys 7 per cent of India's import trade as compared with less than 9 per cent before the war.

It is a noteworthy feature of India's foreign trade that over one-third of her imports consist of only three general classes of manufactured merchandise. India's imports in 1929 were valued at about $900,000,000. Of this amount, the United Kingdom supplied $175,000,000 worth of cotton and rayon manufactures and iron and steel products; Japan supplied $63,000,000 worth of cotton and rayon goods; Germany and Belgium contributed $16,000,000 worth of iron and steel products; and Java, England, Germany, and Hungary shipped $55,000,000 worth of sugar. It is impossible to conceive that any expansion of Indian industries could possibly satisfy the domestic requirements in these particular commodities but it is possible to anticipate some measure of replacement of foreign supply by indigenous supply, keeping in mind that protective duties have recently been established on cotton and steel manufactures and that the Indian Tariff Board is now investigating the merits of protecting the sugar industry.

So far as American trade with India is concerned, the development of local industries is likely to stimulate rather than curtail the exchange of goods. The United States buys roughly $140,000,000 worth of Indian materials annually and the burlaps, shellac, rice, goatskin, castorseed, tea, manganese ore, myrabolens and spices can hardly be said to compete with American production. On the other hand, India will require increasing quantities of American materials and engineering equipment which her own enterprise will be unable to supply for many years. Despite the fact that some American firms have seen fit to supply the Indian market with motor cars, tires, sewing machines, engineering equipment and specialties produced in their subsidiary factories in Canada or England, and despite the fact that one American concern has substituted Russian kerosene for kerosene from the United States, our shipments to India have continued to show a steady upward trend and now have annual value of about $70,000,000 including silver.

The fundamental question which lies at the bottom of any accurate appraisal of the present competitive situation in India is not so much the problem of the relative strength of the leading participants in the contest as it is in the probable expansion of the purchasing power of the market. If the more alarming prophecies as to the dangers to our export trade from intensified European competition are examined, it will be found that they proceed in almost every case from the assumption that the trade of India has already reached a point of nearly complete saturation and that the issue is simply one of the relative strength of the contestants as to which will gain a predominant position. This totally erroneous deduction presupposes a rigidity of population and standard of living in India, which is so profoundly at variance with actual conditions as to be almost absurd. Opinions may differ as to whether there has been progress or retrogression in the well-being of the people of India, but while the continued heavy influx of precious metals may not be evidence of increasing wealth per capita, it surely indicates an increase in aggregate wealth or aggregate consuming power. The steady and increasing demand for motor vehicles, silk goods, phonographs, clocks and watches, canned goods, cigarettes, liquors, motion picture film, footwear and toilet requisites is proof that a growing proportion of this immense population can be induced to buy semi-luxuries when the products are brought to their attention through good merchandising effort.

One hears a great deal talked about American trade with European and South American countries, but the extent to which that trade has been vitally stimulated by American credit and investment may not be fully appreciated. British investments in India are tremendous and partially explain the hold her manufacturers have had in this market. By contrast, American investments in India have been very negligible, with the result that our steady growth of trade with the country is all the more creditable.

Appendix IX THE TOYO PODAR COTTON MILLS, LTD.

Rules and Regulations in force at the above Mills, which are binding upon all Employees of the Mills or Company

General

Rule 1. The words "Mills" or "Company" used in these Rules shall mean and denote The Toyo Podar Cotton Mills, Ltd.

Rule 2. The word "Employee" used in these Rules shall mean and include all persons employed in the "Mills" whether male or female, adult or young.

Rule 3. The word "Manager" used in these Rules shall mean the Manager of the Toyo Podar Cotton Mills, Ltd. The Manager shall be the sole authority as to the interpretation to be placed upon and the carrying out of these Rules and Regulations and his decision on all questions shall be considered final and binding upon all Employees.

Rule 4. Nothing in these Rules shall be deemed to restrict or limit any power which the Company may have by law outside the Rules.

Rule 5. The Company reserves to itself the right to amend, alter or add to any or all of the Rules aforesaid from time to time by giving previous notice to that effect.

Rule 6. The Company shall from time to time notify the hour to begin daily work in the Mills on the notice board kept outside the Time-keeper's office.

Rule 7. All Employees will be given by the Company a brass medal as a symbol of employment, which must always be shown to the Jamadar both on entering and leaving the Mills.

Engagement and Dismissal

Rule 8. The Company will engage such hands only who pass the Company's medical examination and agree to abide by the Company's Rules and Regulations and sign a declaration to that effect, provided they are deemed fit by the Company.

Rule 9. All Employees shall be divided into two classes, viz., Probational and Permanent.

Rule 10. Probational Employees shall work for a period of three months whereafter, if they are approved by the Company, they shall receive a letter of appointment on the permanent staff list, but if they are not approved by the Company they shall be dismissed without any notice pay.

Rule 11. Permanent Employees shall on dismissal be entitled to one month's notice pay provided they have not incurred forfeiture of salary or wages by any breach of the rules hereof or otherwise.

Rule 12. The Company is entitled to dismiss any Employee with one month's previous notice or one month's pay in the case of Employees drawing monthly salaries and 26 days' average earnings in the case of Employees working on daily earnings basis, in lieu of notice.

Rule 13. Any Employee wishing to leave the Company's service shall have to give one month's previous notice to the Manager, and in default thereof his or her salary or monthly earnings for one month shall be forfeited.

Rule 14. No EMPLOYEE shall under any circumstances absent himself or herself from work without leave. Any EMPLOYEE absenting himself or herself without leave for seven consecutive days shall be deemed to have left the COMPANY's services without giving notice and the salary or wages due to him or her shall be forfeited.

Rule 15. Any EMPLOYEE who is prevented from attending the MILLS on account of sickness or other unavoidable reason shall immediately give intimation thereof to the MANAGER or Head of department and shall obtain leave. In this case of absence or leave the EMPLOYEE's salary, wages or earnings for the number of days or hours he or she is absent or on leave shall not be paid.

Rule 16. An EMPLOYEE committing any one or more of the following acts shall be dismissed immediately without notice pay and all his or her wages or earnings up to the date of such act shall be forfeited at the discretion of the MANAGER:—

(*a*) STRIKING WORK either singly or in combination with other employees.
(*b*) STEALING any property or committing any other criminal offense on the MILLS' premises.
(*c*) Receiving or giving BRIBES or any GRATIFICATION from or to any person employed in or connected with the MILLS in any way.
(*d*) DISOBEDIENCE to the lawful orders of a superior officer.
(*e*) SMOKING inside the MILLS' buildings.
(*f*) Gross NEGLIGENCE in work or laziness.
(*g*) Entering into or leaving MILLS premises from any place other than the gate.

PROMOTION AND BONUS

Rule 17. An EMPLOYEE who is very regular in attendance, good in behaviour, diligent, conscientious and skillful in work shall be classed by the MANAGER as SPECIAL EMPLOYEE and will be preferentially treated in all matters according to their MANAGER's discretion.

Rule 18. EMPLOYEES other than JAMADARS, WATCHMEN, CLERKS, and OFFICERS attending the MILLS regularly on all working days without any absence or leave, during the month, will be given a REGULARITY BONUS according to their total monthly income as per Schedule No. 1 on the following pay day.

Rule 19. OFFICERS, CLERKS, JAMADARS, and WATCHMEN of the MILLS attending regularly without being absent or on leave for more than 3 days in a year shall be given one month's salary by way of REGULARITY BONUS at the end of the year.

Rule 20. An EMPLOYEE who has served the COMPANY for five years or more will get a LONG SERVICE BONUS on his leaving the service with the consent of the COMPANY, proportionate to his monthly earnings according to Schedule No. 2.

FINES

Rule 21. Any EMPLOYEE who is guilty of one or more of the following acts shall be fined according to the Schedule No. 3:—

(*a*) Attending the MILLS LATER than the time to begin work.
(*b*) Attending the MILLS more than 15 minutes after the time to begin work.
(*c*) Absenting without leave for whole day. RUNNING away after midday.

(*d*) Smoking on the Mills' premises in open space except at the place set apart for the purpose.
(*e*) Spitting on the floor, walls or any part of the Mills' buildings.
(*f*) Committing nuisance on the Company's premises.
(*g*) Throwing remains of meals or any dirty things on any part of the Mills' premises except at the place provided for the same.
(*h*) Taking meals inside the Mills' buildings except at the place set apart for the purpose.
(*i*) Minor negligence in work or laziness.

Rule 22. All Fines levied as aforesaid and collected shall be credited in the account books to a special account and the amount thus accumulated shall be utilized by the Company for the welfare of the employees.

Rule 23. Any Employee who is found wilfully or negligently causing any damage to the Mills' property, machinery, stores, goods, etc., shall forthwith make good the same. If the culprit is not found, All Employees working nearby or concerned thereto will be liable to jointly make good the damage.

Payment

Rule 24. The Company shall notify on the notice board kept outside the Time-Keeper's office, in the month of January of each year, the respective Pay-Days of every month during the year.

Rule 25. Employees will receive from the Company a Pay-Ticket every month, one day before the Pay-day, on presenting which the salary or wages will be paid on the Pay-day.

Rule 26. Employees who fail to produce the pay-ticket on the Pay-day shall not be paid on the Pay-day but thereafter at the convenience of the Pay Officer.

Medical Aid

Rule 27. Any Employee getting injured while doing his or her work in the Mills shall be given proper medical aid and shall be granted leave with pay for the number of days deemed necessary for treatment at the discretion of the manager.

By order of

Messrs. Toyo Menka Kaisha, Ltd.

Bombay, 15th February, 1927.

Gordon-Taylor Inc.
Cambridge, Mass.

Date Due

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